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Lecture.

EXTRAVASATION OF URINE.

BY FESSENDEN NOTT OTIS, M.D.,

Clinical Professor of Diseases of the Genito-urinary System, in the College of Physicians and Surgeons, New York.

(*Concluded from page* 114.)

Gentlemen:—It has now been five weeks since we operated upon a case, on Blackwell's Island, for extravasation and infiltration of urine. Some new features of interest have developed since I last spoke to you about the case, and I will again call your attention to it to-day. The patient was doing very well for a while after the operation, when, on the eighth day, a profuse hemorrhage occurred, and by the time I reached the patient he was pale, the pulse was rapid, and his condition was such as to require free stimulation. Blood was still flowing from the bladder and penis, although a superficial plug had been introduced and ice applied. The patient was straining to evacuate the bladder, which was filled with blood clots. I passed a large-sized catheter into the bladder, attached to it a syringe, washed out the bladder, then introduced a canula-chemise through the wound into the viscus, to stop hemorrhage. The canula-chemise was made by passing a catheter through a snugly-fitting hole in a piece of linen about ten inches square, then tying the cloth about one inch from the eye of the catheter and turning it forward, making a sort of umbrella. This is rough and lies in folds, so that it causes the patient a good deal of pain in introducing it through the sensitive wound; and on this occasion it occurred to me to smear the cloth well with hard soap, and with soap also to fill up the shoulder at the junction of the cloth with the catheter, after which it slipped into the bladder readily. If this does not check hemorrhage, the folds of the umbrella may be opened and lint or cotton packed around the catheter, and a sufficient amount of pressure be thus exerted to accomplish the object desired. Then fever set in, which was accompanied by profuse sweating. It was then found that a pus cavity had formed in the tissues of the abdomen, and some infiltration of urine could be recognized by the crepitus resulting from its decomposition. The manner in which infiltration of urine may take place in one part and not involve another is illustrated in this simple but ingenious manikin, which shows the division between the superior and inferior, the anterior and posterior penile portions, the relations of the deep and superficial perineal fascia, the triangular ligament, the scrotum, vas deferens, etc. An incision was made, about two inches in length, in the line of the groin, laying open a cavity filled with very fetid pus. A drainage tube was then introduced and the pus cavity washed out with a solution of carbolic acid, about 1 to 100. The patient did very well for some days, but fever again was set up, there was more or less profuse diaphoresis, and on examination another pus cavity was found in the tissues of the scrotum. An incision was made into this, after which the case went rapidly on toward recovery. When I saw the patient a week ago he was passing most of his urine through the natural channel, only a little dribbling through the opening in the perineum. This was very satisfactory, but a few days later the urine came less from the

urethra and more through the perineal opening, the cause of which was found to exist in an obstruction to the flow of urine through the natural channel. Now, this is an accident which often occurs when an opening is made through the perineum into the bladder for any cause, as, for instance, for the removal of stone, and the perineal opening is then slow in healing, sometimes constituting a permanent fistula. When this occurs, I think it will be found that, in ninety-nine cases out of a hundred an obstruction to the flow of the urine exists in the anterior portion of the urethra. This is true, too, in cases in which there has been no antecedent disease. In cases where there has been perineal section for stone, for instance, and in which there has been no antecedent gonorrhœal disease, we may yet have obstructions, strictures, resulting from the same causes which have produced the stone, namely, lithiasis. The presence of calculous material passing through the urethra irritates it at certain points, which, when continued, produces such an inflammatory condition as results in the accretion of plastic material at this point, constituting stricture. Whatever different theories may be entertained with regard to the cause of stricture, I think we must necessarily, in taking a common sense view of it, come to accept the simple explanation of plastic material being drawn to the point at which irritation exists, from whatever cause; not necessarily irritation the result of specific disease, but irritation from any cause whatever, will produce stricture, provided it exist in sufficient intensity and long enough to cause the deposit of plastic material at this point.

You will remember that I attributed the cause of this patient's difficulty to a folliculitis supposed to exist behind a stricture, for there was no other way to account for it. The patient, however, had had for a number of years a certain amount of urethral discharge, but to which he paid no attention. He had no difficulty in passing his urine until this swelling occurred in the perineum, therefore we could only attribute his difficulty to the cause which I have already named, that is, follicular perforation of the urethra, the result of a folliculitis existing behind a stricture. You will bear in mind the fact that a stricture even of large calibre is capable of holding behind it the solid material of the urine, which may give rise to irritation, and this again to inflammation in a follicle in which suppuration takes place and penetrates the urethral wall, and allows, in many instances, urine to pass through into the tissues. Now as soon as this takes place, of course, inflammation is set up by the presence of urine, and an abscess of greater or less size is formed. The follicular penetration may be so small that the urine can extravasate only in very small quantity, in which case only a very slight and localized inflammation will result, and about this a sufficient amount of plastic material may be thrown out to consolidate the parts and leave a little, hard bunch. But where the opening is larger, urinary infiltration of the tissues takes place more abundantly in proportion to the size of the opening, and then the progress toward extensive destruction of tissue goes on rapidly.

The examination of the patient in the present case sustained the above views. In the first place, the urethral orifice was of small size, and we consider this contraction of the orifice a stricture. Anything which contracts the normal calibre of the canal permanently may be considered a stricture, as far as its effect upon the passage of the urine is concerned. Then, behind the contracted orifice this patient had three points of stricture within a distance of two and a half and three and a half inches, which, being measured, were found equal to ten millimeters. This degree of contraction was determined by the proportionate measurement, which always holds true, between the circumference of the penis and the size of the urethral canal. In this case the circumference of the penis was three and a half inches, which called for a urethra which would admit an instrument No. 35 French.

The measurement of the canal was made with the urethrometer, an instrument which I will briefly describe for the benefit of those students who may not be familiar with its working. The urethrometer has at one end a bulb, which expands or contracts synchronously with the movement of a screw at the other end. When closed it usually represents 15 French, and when the bulb is completely expanded by turning the screw at the other extremity it represents 45 French, or by turning the screw less, it may be made to represent any number between these two extremes. The end of the instrument is covered by a small rubber stall, which protects it and prevents folds of mucous membrane getting between the arms of the instrument and becoming pinched. The instrument is usually composed of springs, but the one which I show, being of older date, is composed of hinged arms; but the two kinds work on the same general principle. The degree of expansion or contraction of the bulb is indicated by a dial at the screw extremity.

This instrument was passed down to the bulbo.

membranous portion of the urethra and turned up to 34 French, which was about the proportionate relation between the size of the penis and of the urethra in this case. The bulb was then gently drawn forward until arrested, when it was lessened by turning the screw until it passed through the contraction or stricture, then again turned up to the normal size, but again twice turned down to pass through two more strictures which existed within an inch and a half or two inches and a half of the former one. Let me remark here, that there exists a normal difference of two millimeters between the size of the bulbo-membranous and the middle portions of the urethra.

The first stricture in this case was found just over the scrotum, which fact would suggest that perforation had taken place here, and would account for infiltration first occurring in the scrotum. If you will recall the arrangement of the fascia, as illustrated in a manikin shown at a former clinic, which made a division into anterior and posterior penile chambers, you will understand how infiltration of urine in the posterior part may be entirely separate from infiltration into the anterior part, and hence, involvement of the scrotum, without that of the body of the penis, as occurred in this case. From the scrotum the urine found its way through the cribriform fascia up into the groin and integument of the abdomen.

While, therefore, we cannot ascertain positively that there was a follicular opening which led to the trouble in this case, I think we may, by exclusion, conclude with reasonable certainty that such was the case, and while before extensive infiltration of the tissues occurred through this abnormal departure in the urethra, which was relieved by operation, the same pathological state now prevents closure of the perineal opening.

Yesterday I passed a dilating urethrometer down the urethra and divided these strictures. This instrument consists of a pair of very small bars, connected by short arms, very much after the plan of a parallel ruler. In the principal bar a knife is made to run in a groove, which extends from one end to the other, and at the extremity is a slot, which conceals the knife when the blade is passed into the end of the instrument. These bars are capable of being separated to a point representing forty-five millimeters French, corresponding to the scale of the urethrometer.

Now, when you come to understand the nature of every stricture, as I have previously described it to you, that is, that it is made up of plastic material which goes on to be fibrous, possessing all the qualities which we recognize in cicatricial tissue, that is to say, density, firmness, and a certain amount of resiliency, you can then understand that unless this is fixed in some way, the knife, in passing across the stricture, will not be likely to sever it, any more than if it were drawn across a loose rubber band. Consequently, in order to divide a stricture, we must fix it, make it tense, and as thin as possible, so that it can be divided with a narrow blade. This principle may be illustrated by putting a rubber band rather loosely on the dividing instrument. When we find that, instead of being divided, the band stretches and allows the blade to pass through without severing it. If, in drawing the blade through a stricture, you meet with considerable resistance, remember that this instrument is not a divulsor; you should not use too great force, lest the instrument break, but push it back and release it, and try again, and if necessary draw the blade through two or more times, only at the last time turning the dial up to the full size of the urethra. When the stricture is completely divided, as is illustrated by the division of this rubber band; there remains no obstruction at that part of the canal whatever, and a sound, either bulbous or other kind, can then be passed down without the least difficulty. Then, if the stricture has been completely divided and the lips of the wound are kept entirely separate until healing has taken place, we find no tendency at all to a recurrence of the stricture. Therefore, as a rule, to which there are not many exceptions, this operation has the advantage of resulting in a complete and thorough cure of the stricture.

This plan of treatment of such perineal openings as do not readily heal is not novel. I have many times had occasion to demonstrate the fact that perineal openings, however made, are, in cases in which they do not readily heal, kept open by an obstruction in the urethra, anterior to the perineal wound. While passing through the Lock Hospital, in London, several years ago, in company with Mr. Coulson and Mr. Teevan, two of the surgeons of the hospital, we were discussing the subject of stricture, particularly with reference to strictures of large calibre, and Mr. Coulson called my attention to a certain patient, saying that he had been in the hospital for a long time; he was suffering from a perineal fistula, which they were unable to heal. Previous to his entrance into the Lock Hospital he had been at Guy's, St. Thomas', and other hospitals in London, where he had undergone almost all the known procedures for the closure of his peri-

neal fistula, but without success. Three months later an account of this case was published in the London *Lancet*, August 20th, 1875, under the title of "Perineal Section, followed by the operation of Dr. Otis, for the Cure of Fistula in the Perineum," by Walter Coulson, F.R.C S., surgeon to the Lock and St. Peter's Hospitals.

After giving the previous history of the case, he says: "The perineal wound became merely a fissured opening, but still it would not quite heal, and on every occasion that the patient passed water some portion of the urine escaped through the fistula. *The question then presented itself, whether the fistula might not possibly be kept patent by some constriction in the penile portion of the urethra?* With the assistance of Dr. Otis, an examination was made with the urethrometer, *and the existence of three distinct points of stricture was demonstrated.* It was, therefore, resolved that resort should be had to his operation. The patient was placed under the influence of ether, administered by Dr. Knott, and the urethrotome of Dr. Otis was passed down as far as the fistula. The instrument was then made to indicate a dilatation corresponding to 32 of the French scale, and the three points of contraction were freely divided. The last mentioned result was verified by the introduction of the bulbous sound (32), which was passed down as far as the fistulous opening, and withdrawn without a catch. A tube, open at both ends and about five inches long, was tied into the urethra after the operation, and was allowed to remain for six hours. This was at the suggestion of Dr. Otis; but the tube was removed at the patient's request, as there was no sign of bleeding: the loss of blood after the operation was also slight. From the date of the operation, July 19th, to the 24th, no unfavorable symptom manifested itself. A 32 bougie was daily passed along the urethra, to prevent adhesion of the cut surfaces, *and the patient left the hospital cured.* When he reported himself to me, August 16th, *the fistula was completely healed.* Among the complications arising from stricture, extravasation of urine, and injury to the urethra, there are few which occasion more inconvenience to the patient, and trouble to the surgeon, than perineal fistula. In D.'s case the complication resulted from an operation performed for the relief of extravasation, and dilatation having been tried and failing to close the fistula, perineal section was, for a second time, resorted to; but in spite of this operation, and subsequent dilatation, the fistula remained open."

"The result of Dr. Otis' operation certainly proved that slight contractions, which are not usually recognized as strictures, may offer obstruction to the passage of the urine sufficient to prevent a urinary fistula from healing. The result of the internal division of the strictures and the daily introduction of full-sized instruments left the mucous wall of the canal, after complete cicatrization had taken place, as supple and non-resisting to the passage of the full-sized sound as a perfectly healthy urethra."

Such is the testimony of so eminent an authority as Mr. Coulson, with regard to the complete absorption of stricture material after division by this method.

The subject is one of such great importance that I deem it proper to quote another case which was reported by Mr. Teevan, Surgeon to the Lock and St. Peter's Hospitals, and published in the *British Medical Journal* of October 21st, 1876: "*Traumatic Stricture and numerous Penile Fistulæ Cured by Internal Urethrotomy.*" Mr. Teevan related particulars of the case. The patient was a sailor, who had injured his scrotum and penis by a fall twenty one years previously. Numerous abscesses formed and sixteen fistulæ resulted, through which all the urine was passed. In the course of a few years the fistulæ in the scrotum (eleven in number) closed, but those in the penile urethra remained open. For a period of more than three months Mr. Teevan tried three separate plans of treatment, with but partial success. First, retaining a catheter in the bladder. Second, the patient drawing off all his own urine with a catheter for two months. Third, the application of heated wires and probes tipped with nitrate of silver. On January 6th Mr. Teevan performed Dr. Otis' operation, and *nine days afterward all the fistulæ were closed*, and remained so permanently. The points of interest in the case were:—

1st. The stricture being a traumatic one of the worst description.

2d. The fistulæ being in the penile urethra, always most difficult to cure.

3d. The fistulæ having been open for the long period of twenty-one years.

4th. The failure of three different methods of treatment.

5th. The permanent closure of the fistulæ after the strictured portion of the canal had been enlarged by Dr. Otis' urethrotome *to its natural calibre*, which was 31 millimeters in circumference.

6th. Subsequent to the operation no catheter was left in the bladder, nor was the urine drawn off.

[At a subsequent clinic, Professor Otis stated that the patient had entirely recovered, and although he had not yet left the hospital, he was walking about the wards.]

COMMUNICATIONS.

THE THERMOMETER AND ITS USE IN MEDICINE.

BY HUGO ENGEL, A.M., M.D.,

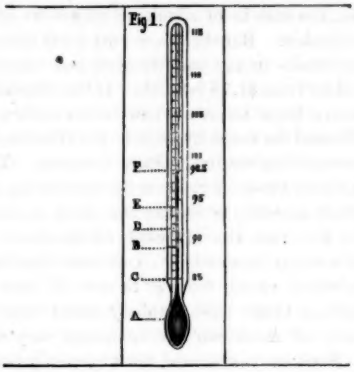
Professor of the Principles and Practice of Medicine and of Clinical Medicine, at the Medico-Chirurgical College, etc., etc.

It must be admitted that there are still many, and especially older physicians, who in their daily routine practice do not make use of the clinical thermometer. Though often, perhaps, excusable, they are wrong in not doing so, and without knowing it, they harm their reputation by such neglect. First, the physician who employs all modern modes of investigation in the examination and treatment of his cases, will always make a better impression upon the public than the one who, with an earnest face, simply looks at the patient and the tongue, feels the pulse, and asks a few questions. But there is another point which should induce every practitioner to use all modern appliances in the performance of his professional duties, and especially the thermometer, and that is the rapidity and certainty with which the latter frequently enables the physician to recognize a disease, or to give a sure prognosis, while without the use of this instrument he may have to wait days for the development of other symptoms, ere he can arrive at a definite conclusion. I said above, that many physicians are excusable if they do not use the thermometer, and so they are. When they studied medicine, the application of this instrument in disease was not known as yet, and therefore, not taught. Later, especially if practicing in the country, they had no opportunity of becoming acquainted with its use. To remedy this, I shall endeavor in the following to describe the best clinical thermometer, which every physician should possess, then show how it is best employed, and lastly, try to prove its great value in the diagnosis and prognosis of certain diseases which may any day come under the care of the practicing physician.

The physician should buy only a *self registering* thermometer. The following cut (Fig. 1) gives a good illustration of it.

A is the bulb of mercury, which ascends here as a fine column, C, up to B. From B to E is a hollow space D, filled with air, and this column of air, D, divides the upper column of mercury E.....F from the lower one, ending at B. The physician has only to do with this upper column of mercury E.....F. A scale is cut into the glass and the thermometer should indicate at least the degrees of temperature from 85° to 115° Fahr. Each degree is generally subdivided into four or five parts. The way the instrument works,

Fig 1.



is the following: A self-registering thermometer is made by using an ordinary thermometer tube, with a very fine bore, and then breaking the mercurial column at one point by the insertion of a small portion of air. When the temperature causes the mercury to expand, the air is carried forward, and, of course, pushes the mercury above it forward also. When, however, the temperature falls, the lower column of mercury contracts, the air between the two parts expands, being relieved from pressure, and thus keeps the index (the upper mercurial column) in its original position, being also assisted by the capillary attraction of the small tube on the index column. The lower column can ascend to the same point as the upper did, provided the temperature is proportionately increased, but the register being arranged for the length of the entire column, any shortening of it by the separation of a portion for the index will necessarily require a much greater expansion of the remaining portion in order to occupy the same space.

The reader will easily see, therefore, the reason why the upper or index column of mercury indicates the degree of temperature to which the instrument has been exposed, and why it will continue to register the height once reached, unless it is brought in contact with a still higher temperature than the one it records, or is forced down by the physician, as will soon be mentioned.

A physician should buy a clinical thermo-

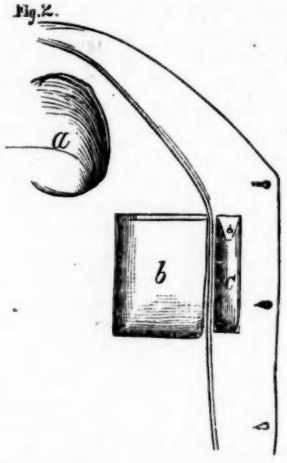
meter—as the one just described—from a first-class firm only, and secure an English imported one, which is accompanied by a statement of the Observatory at Greenwich, certifying, usually, that the instrument varies only $\frac{1}{10}°$ or so, therefore, so little, that its reliability for medical purposes is not influenced thereby. The price for such instruments varies from $4.50 to $5.50; if higher, the case is of silver, or otherwise specially valuable. But there are very good thermometers made in our country also, and they can be had for from $1.75 to $3.50. If the physician, however, buys an American thermometer, he should send the same, by mail, to the Observatory of Harvard University, to have it tested. They charge only twenty-five cents for the testing, and the great necessity of having this done is proven by the fact that the Harvard Observatory has tested already hundreds of American thermometers, which varied from $\frac{1}{2}°$ to over 2°, and the authorities there have publicly stated that the majority of American thermometers vary over $1\frac{1}{2}°$. Such an instrument most certainly is useless, nay, even dangerous. The fact of so many being incorrect proves the necessity of having every clinical thermometer tested by the Harvard Observatory, if it is not already accompanied by a certificate from a similar institution of equal reputation. If found to vary more than a small part of a degree, the instrument should be returned to the firm it was bought from, and an exchange, or return of the money insisted upon.

After the physician is in possession of a reliable, self-registering thermometer, which should be well protected by a metal or wooden case, lined with velvet, he must make arrangements for carrying it always safely with him. For this purpose I recommend, as the most useful, the following: The physician instructs his tailor to make him a small pocket, just large enough to hold the thermometer case, adjoining his inner coat pocket, and a lap with a button hole over the pocket, and sew on the latter a button, so that the pocket can be securely closed. The following cut (Fig. 2) will convey a better idea than any description can give.

Whoever does consider such an arrangement superfluous, has not been in the habit, as yet, of daily carrying with him a thermometer, because every one who has will have paid for at least half a dozen he broke, in a year. These thermometers seem to be endowed with a special tendency to fall out of any other pocket they are carried in, no matter how securely packed away, and I never have known any such thermometer *not* to break, when falling, *toute la même*, how small the distance; they seem bound to break. But the arrangement recommended cures them of their rather expensive habit.

Before using the thermometer, the physician should first convince himself that the upper column of mercury has not ascended above $98\frac{1}{2}°$. It should always be at least 2° below that, and whenever there is any suspicion of the patient's temperature being still lower, the upper column of mercury should not be higher than about 90°. If it registers a higher temperature than is desirable, before applying the thermometer to the patient, the physician should hold it by the

Fig. 2.



middle, tightly between his fingers, and knock with his hand several times on a hard substance (a table, for instance), or, taking the instrument securely with his fingers, by the top, make, several times in succession, a downward swinging motion with his arm, when the upper column of mercury (which, I mention once more, is the only one the physician has to look at) will sink down far below $98\frac{1}{2}°$. To inspect a self-registering thermometer and see that the upper column of mercury is not above $98\frac{1}{2}°$, is a point which never must be lost sight of before applying the instrument. Sometimes, when there is no doubt of the patient's temperature being increased, and when the upper index column is very low down, it may be well to dip the bulb into hot water, and bring the index up to $98\frac{1}{2}°$ before applying it. This is only a practical hint, a proceeding to save time.

The temperature of a patient should be taken twice daily, about 7 A. M. and 7 P. M., except in special cases, when it should be recorded at certain definite times of the day, as will be ex-

plained further below. The self-registering thermometer has in its favor, that if the temperature has to be taken twice daily, the physician need make his morning visit only, when he may himself take the temperature of his patient, and after bringing, by the above-mentioned procedure, the upper mercurial column down below 98½° again, leave the thermometer with the nurse, giving her directions how and when to apply it and to put it away for his inspection the following morning, when the self-recording instrument will inform him how high his patient's temperature was the night before. It is hardly necessary to mention here again that the instrument will only so long truly record the patient's temperature as it is not brought in contact with a still higher temperature than the one it is registering. If, for instance, the patient's temperature was 104°, and the nurse should lay the thermometer, even for a second only, on a hot stove, the physician must not be astonished to find it registering the temperature of the stove, or 115°, *i. e.*, as far as the column of mercury possibly could ascend.

No matter how the thermometer is applied, the application should last fully ten minutes. I specially caution physicians never to disregard this rule. Experience has often taught me that the index column in the last of the ten minutes would still ascend one degree or more, while after ten minutes I never have been able to observe an increase, except in cases like malaria, where the temperature often rapidly ascends in a very short time. But to determine the patient's actual temperature present, the application of the thermometer for ten minutes is sufficient, but necessary.

There are three ways in which, usually, the thermometer is applied: in the mouth, the rectum, or the axilla. Some prefer one way, some the other. But it is not always a matter of preference. For various reasons, as infection or danger of breaking (the patient's condition being such that he may bite the instrument with his teeth) the thermometer can frequently not be applied in the mouth, which is otherwise, if no special cause exists against it, a very good way of determining the actual temperature of the patient's body. The bulb must be put under the tongue and the lips closed over the thermometer, while the hand of the patient, physician or nurse holds the upper part of the instrument with the fingers. The patient is informed that he can swallow the saliva necessarily collecting during this procedure in his buccal cavity, but that he should do so without biting on the instrument, and without parting his lips. In most cases, however, where the patient is confined to his bed, the temperature is taken in the axilla. In such a case, the bulb and nearly the whole thermometer must be carefully laid deep in the armpit, and the arm pressed against the chest, so that the instrument is entirely surrounded by folds of the skin, and its upper part only to be seen. The patient should then be carefully covered by his under clothing and bed covering, while, for the purpose of greater security, the physician or nurse holds the point of the instrument between the fingers, as one can feel, this way, if the thermometer is well imbedded in the axilla and in intimate contact with the skin. But there are cases where the thermometer cannot be applied in the mouth, and where its application in the axilla would not give the correct temperature of the body. This happens in sunstroke, for instance. Here the patient is unconscious, and the application in the mouth would be attended with danger. But after the whole body has been rubbed with ice, or been lying in a bath of cold water for some time, it would necessitate a very long application of the thermometer in the axilla, ere it would indicate the actual temperature of the body. In such, and other instances, where, for some reason or other, the application can neither be well made in the mouth, nor in the axilla, the thermometer, after having been oiled sufficiently, is pushed into the rectum. It answers the purpose, if a little more of the instrument than the bulb is introduced. I remember especially, one grave case of sunstroke, where, notwithstanding rubbing the patient for about an hour, with ice, and throwing ice water over the chest (a bath could not be procured) unconsciousness still continued. The patient was rubbed thoroughly dry and a colleague present took the patient's temperature in the axilla. After having held it there securely for about ten minutes, the thermometer indicated 97°, and the physician who had not seen the case from the beginning expressed doubts as regards my diagnosis of sunstroke, and spoke of apoplexy. I quietly took the instrument, and after oiling it, pushed it up into the rectum. Within six minutes it recorded a temperature of 108°, and a somewhat sour smile crept over my colleague's face. Continuing, then, our process of cooling for about three-quarters of an hour longer, we had the pleasure of seeing the patient revive. While this case shows the necessity and importance of determining the actual temperature of the internal body, there are occasions when it is important to show the exact temperature of a certain limited part of the surface of the body.

For instance, to detect, in a case of hemiplegia, any difference between the temperature of the paralyzed and the non-paralyzed arm or leg, or to find out the temperature of a still more limited place, as in localized inflammations of the convolutions or other parts of the brain, there is a special *surface* thermometer made use of. The only difference between this and a common self-registering thermometer consists in the fact of the bulb containing the mercury being flat like a button in the surface thermometer, and being fastened, by a simple contrivance, into a leather strap, so that when the strap is tightened around the head, trunk, or a limb, the button-shaped bulb of the thermometer will be in intimate connection with and pressed on to that part of the skin where the local temperature shall be determined, while the upper part of the thermometer, with its scale, stands upright at right angles to the surface. These thermometers are also self-registering. They are very convenient for taking the surface temperature, or the temperature at any definite locality, as the physician needs not to hold the instrument between his fingers for ten minutes—the same length of time being, of course, here required, as in other cases; and as the button-shape of the bulb permits a better contact of the mercury with the skin, a more accurate measurement of the degree of heat is possible. The reader will see, from this, that a physician should be in possession of two self-registering thermometers; of the usual one, first described, and of the so-called surface thermometer. The latter, being rarely used, he need not carry it always about him, but may keep it in his office till occasion arises.

To recapitulate: A physician, when buying a self registering thermometer, should have it tested at the Harvard Observatory, if it is not accompanied already by a similar reliable certificate. If he does not wish to break the instrument frequently, he has a special pocket made for it, like the one described above. Before using the thermometer, or, if leaving it with an attendant to have the patient's temperature taken during his (the physician's) absence, he must always first convince himself that the upper (index) column of mercury registers less than 98½° (the normal temperature of the healthy human body), and should it not do so, bring the column down by the procedure mentioned. Usually, the thermometer may be applied in the mouth; if this cannot be done, in the axilla; and in certain cases, in the rectum. But no matter how the temperature is taken, the observation should be made at least twice daily, and for a period of not less than ten minutes each time. I may add, that the physician will do well to keep a record of all his cases, and that the number of respirations and pulse beats be noted each time the temperature is taken. For the small outlay of one dollar only, a record book can be bought, specially prepared for this purpose, and arranged for one hundred cases.*

We come now to an important question: Of what assistance is the clinical thermometer to the physician? And I answer, it is invaluable as regards diagnosis and prognosis. Certainly it will be impossible for me to mention the temperature record of every affection, but I will give in the following the most frequent diseases in which the use of the thermometer will prove of great value to the practicing physician.

A patient who has been losing flesh somewhat, of late, and been troubled with a short, dry cough, which no remedy seems to be able to remove totally, but in whom the physical diagnosis gives a negative result and indicates apparently a mild bronchitis only, which, however, cannot be cured; such a patient is in our charge. For a few evenings his temperature is taken in the mouth, or in the axilla, at about 6 P.M., and what do we find? The thermometer records regularly 99° to 100°. If no other cause exists for this regular nightly increase of temperature, the case can surely be put down as one of incipient tubercular phthisis, and if there should be a history of tuberculosis in the family, the diagnosis becomes a certainty.

The physician is called to a patient whose teeth chatter, who has had a chill. He may have been perfectly well before, or been so the day before, but had a similar attack one or two days previously, or there may be no history of any preceding illness whatever. The question arises: Is this a case of nervous chills, of hectic fever, of ague, or of syphilitic or urethral fever; or is somewhere internal abscess formation going on? The thermometer is applied, and, as all instruments of precision, its record reveals the truth. While the skin apparently is cold, the temperature rises to 105°, later to 106° and 107°, and during the stage of sweating the thermometer shows a decline of the temperature of 2° every ten minutes, till it has reached about 98° or ½° below normal. Herewith the diagnosis is decided; this temperature record, this rapid, great rise and decline, is only found in intermittent fever, due to malaria, and in no other dis-

* The Physician's Clinical Record, for Hospital and Private Practice, with Memoranda for Examining Patients, Temperature Charts, etc., etc. Philadelphia: D. G. Brinton, 115 South Seventh Street. 1881.

ease. The indication for quinine is given, and the fears of the patient and his relations can be at once dispelled by a favorable prognosis.

A lady has a common bronchitis. After this has progressed as usually, for four days (I describe a case as it actually occurred in my practice, and I may mention here that all the instances given are taken from actual life), she suddenly complains of severe pain in the lower part of her abdomen, which is tender. There is no tympanitis, no wiry pulse, no Hippocratic face, no vomiting, and the pain disappears again after the application of leeches and the appearance of the menses. But the thermometer recorded a temperature of 105°, and whenever this happens suddenly in connection with the abdominal symptoms this patient had, even if they should leave again, this increase of bodily heat denotes mischief, denotes a lurking, fatal peritonitis. So it was in this case. Though the symptoms were by no means grave after the cessation of pain and tenderness, forty-eight hours later sudden collapse set in, and death took place almost before I reached the patient, who lived only a ten minutes' ride away from me. The post-mortem revealed what I had told her relatives: the peritoneal lining of an old pelvic abscess, which had been encapsuled for years, inflamed, in consequence of the same exposure to cold which had given origin to the bronchitis. Then the abscess "pointed" and burst into the peritoneal cavity, which fatal accident caused the sudden rise of the patient's temperature. As after the application of the leeches and the appearance of the menses the symptoms all left, and the case had by no means a fatal aspect, I would have made myself ridiculous and injured my reputation, by a favorable prognosis, from the giving of which only the thermometer saved me, its record of 105° warning me of the approaching dissolution.

A young man, who for some days has been complaining of general lassitude, pain in his limbs and his head, and who perhaps had slight epistaxis also, is feverish one evening, and sends for the physician, who does not know what is wrong, but who employs the thermometer, and finds a temperature, say of 99°. The next morning the patient feels better; his temperature is 98½°. Being a careful man, the doctor leaves the thermometer with the patient, giving full directions to have the latter's temperature taken the same night. On his visit the day after, the doctor sees, from the self-registering instrument, that the patient's temperature had been 100° the night before, while it is perhaps 99° at his morning visit. Keeping a record of the case, the doctor observes, say by the seventh day, that his patient's temperature had been as follows every night (decreasing every morning from ½° to 1° from the temperature of the night before): first night, 99°; second, 100°; third, 101°; fourth, 102°; fifth, 103°; sixth, 104°; seventh, 104°. From this fact alone, even if diarrhœa, tympanites, and eruption have not made their appearance as yet, or only moderately so, the physician knows that he has a case of typhoid fever before him, as only this disease gives the temperature record described. The temperature will now be stationary, *i. e.*, in a moderate case, 104° at night, 103½° in the morning, till the thirteenth or fourteenth day, when it will decline about as follows: —

14th day,	morning,	102½°	night,	103½°.
15th "	"	101½°	"	103 °.
16th "	"	101 °	"	102½°.
17th "	"	99½°	"	102 °.
18th "	"	99 °	"	101 °.
19th "	"	99 °	"	100 °.
20th "	"	98½°	"	99 °.
21st "	"	98 °	"	98½°.

i. e., the temperature will fall in the morning sometimes 1° to 1½°, or even 2°, but creep up at night to near the same height as the night before, until the twenty-first day, when it has reached the normal, or below it. The following points are of importance regarding diagnosis and prognosis. If after the twenty-first day the temperature continues high, say 103° or 104°, it always denotes one of three things: either a longer continuance of the fever, or a relapse, or mischief within the chest, mostly tubercular deposits. If from the eleventh to the nineteenth day the temperature suddenly declines 4° to 6°, hemorrhage from the bowels, due to corroding of a blood vessel, is sure to follow within six to twelve hours. Oozing hemorrhages are generally accompanied or succeeded by a fall of the temperature of 1° to 2°, mostly immediately after the setting in of the hemorrhage. In typhoid fever a temperature of 103° indicates a mild case; of 104°, a moderately severe; 105°, a grave; 106°, a very doubtful prognosis; and 107° a fatal case. If, during the second week, the morning and evening temperature record are alike, if no decline of at least ½° in the morning takes place, the prognosis is the very worst possible. Such cases end invariably with death, and the same holds good of any other disease.

Just as typhoid fever is characterized by this slow creeping up of the temperature in the first week, its continuance at the height reached during the second week, and its ups and downs

in the third week, so typhus has its peculiar temperature record. Here the temperature reaches its height, 104° to 105°, within twenty-four or thirty-six hours; latest, however, by the third day. Then it continues at that height, with slight morning remissions of about ½°, till the eleventh or thirteenth day, when it falls to the normal just as rapidly as it rose, generally within twenty-four or thirty-six hours, a sweat or a long sleep—a crisis—ushering in the favorable termination. Wherever this temperature record exists it invariably means typhus.

A child is suddenly taken ill with a chill, vomiting, hot skin and a very rapid pulse. The physician is called immediately, and the thermometer records 105°, or anywhere up from this even to 110° and 112°. This always denotes scarlet fever, as there is no other disease of childhood where such a high temperature is developed with such a rapidity. Usually the thermometer indicates 105° to 107°, and from this fact alone, even without the sore throat, and ere the eruption has made its appearance, the diagnosis of scarlatina can be made.

Perhaps, without any premonitory symptoms, a person is seized with a chill, followed by rapid breathing, a dull pain in the chest, cough, high fever, and a comparatively slow pulse. If the thermometer indicates a temperature of 104° or 105°, while the pulse does not beat over 110 a minute, but the respiration is rapid, the diagnosis of acute, croupous, or lobar pneumonia, will always be accurate. There does not exist any other disease where a rapid breathing and such a high temperature are connected with so slow a pulse; or, in other words, where the number of respirations, degrees of temperature, and pulse beats, do not correspond with each other. Often the frequency of the pulse will not be increased at all, or only by a few beats, and it is not rare to find cases of acute pneumonia with a pulse rate of 84 to 90. The fact is well established, that if the pulse exceeds 120 beats in the minute, the case will certainly end fatally. If in a case of bronchitis the breathing suddenly becomes more difficult and the temperature rises to 103° or 104°, it is an indication of catarrhal pneumonia having set in. If in a case of chronic pneumonia, or at that time of acute pneumonia when resolution should begin, the same sudden rise of temperature takes place, it denotes breaking down of the lung tissue. Should, in a case of pleuritic effusion, the temperature suddenly ascend to about 104°, then fall during the following sweating about 2½°, and a similar rise and decline happen daily at almost the same hour, we know that the effusion of serum has changed into one of pus, that the case has become one of empyema, while a similar temperature record accompanies galloping phthisis and the hectic fever of common tubercular consumption. In all cases of suddenly developing severe inflammations of internal organs, or of breaking down of their tissue, or of internal formation of pus, the thermometer will reveal to us the lurking danger; without its recording a high temperature, the apparently grave symptoms lose immediately their perilous aspect. A hysterical female, suffering, for instance, from acute articular rheumatism, may suddenly complain of intense headache and be wandering in her mind; or she may have a severe pain in her chest, be breathing with difficulty, and the heart beating irregularly; but if the thermometer does not indicate a sudden rise of temperature in either case, the complication of cerebral rheumatism on the one hand, and of endocarditis on the other, may safely be excluded.

Suppose a physician is called to a lady, suffering from intense abdominal tenderness and pain, and vomiting. Peritonitis seems to be threatening, but no matter, how, and how long and carefully applied, the thermometer does not register more than 98½°. What does this denote? That this is one of the protean forms of hysteria simulating peritonitis, where the thermometer alone can tell the truth; assafœtida, valerian, and such remedies, will soon remove the apparently grave illness.

A man, during the heat of the summer months, suddenly drops down, unconscious. Is it apoplexy or sunstroke? In the former, the temperature sinks below the normal, generally to 97°, but may fall to 95°, and what is important to know, if, after creeping up, it should again decline, then such fall indicates that more blood is oozing out, that another hemorrhage is still more compressing the brain; while in a fully developed case of sunstroke the thermometer will never record less than 107° or 108°. And as in apoplexy the renewed fall of the temperature generally means death, so in sunstroke, a gradual decline to the normal (but here, for reasons mentioned above, better tested in the rectum), indicates returning consciousness and probable safety.

In cases of apoplexy, local inflammation, abscess or tumor of the brain, the seat of the lesion can often be detected by the use of the surface thermometer, which will indicate an increase of temperature of 1° to 4° over the diseased part. In hemiplegia the affected side shows, usually, a small decline of temperature, as compared with

the healthy side, excepting lesions of the thalami, where frequently a remarkable increase of temperature is observed. In paralysis, connected with a morbid condition of the anterior cornua, and in cases where the blood supply to a part has been cut off, therefore, in all cases of decided trophic disturbance, the temperature of the implicated limb will often be from 4° to 10°, and more, below the normal. I remember the case of a lady whose left arm felt numb, was the seat of severe shooting pains, and could not be raised by the patient. The case puzzled me very much; the lady complained also of a tingling sensation, and the arm had a bluish white color, but was as yet neither swollen nor emaciated. I could not feel the radial pulse on that arm, but the patient informed me that since childhood she knew of this anomaly of the course of the artery. I felt the brachial artery beating, but very weakly. Sensation was diminished, electro-muscular contractility normal. The surface thermometer recorded only 85°, while the temperature of the right arm (the thermometer being applied to each arm, on the inner side of the biceps) was 99°. The blood supply was here evidently disturbed, and the cause of all the symptoms. A few months later an aneurism of the subclavian artery became plainly visible, and proved the correctness of the diagnosis.

There are many occasions, when a clinical thermometer, or a surface thermometer, gives us valuable information; and, in fact, sufficient observations have now been made to enable us to state of almost every disease its own peculiar temperature record. I selected a few only, to show the great value of this instrument to the practicing physician, be he living in city or country. The thermometer should not be considered an instrument, as the æsthesiometer or dynamometer, which are mainly made use of by specialists, and in colleges, for demonstration only, and for which other means can easily be substituted: no, the thermometer should form part of the physician's armory, as the stethoscope, the speculum, or the forceps do. Besides, if permitted, I would give every physician the advice to keep and *use* in *every* case of illness every modern mode of investigation or treatment. How often has it happened, that the fact alone of the consulting physician taking out his thermometer, or stethoscope, which the attending doctor had not thought necessary to employ in that case, gave to the first reputation, and caused the people to talk about what kind of operations the consultant had performed, and what a wonderful man he was; how he inquired after the urine, and analyzed it chemically and with the microscope, finding its specific gravity with the urometer; how he listened to the heart with the stethoscope, percussed the chest with a hammer and plexiimeter; how he took the temperature with a self-registering thermometer, tested the strength with the dynamometer, and sensation with the æsthesiometer; tried electro-muscular contractility with the Faradic battery; and with the galvanic brush, electro-cutaneous sensibility, etc., etc. Certainly it is not this reason which should induce every physician to employ every and all known means of investigation and treatment to make other persons acquainted with them! No, it is the duty the physician owes to his patient which should stimulate him to try all means modern science has put at his disposition. How many a physician has never used a hypodermic syringe, and how frequently did Dr. X. try to remove a colicky pain, or to cause sleep in delirium tremens, which his more careful and shrewder colleague, Dr. Z., when called in after Dr. X.'s means had failed, stopped within a minute or two in the one, and induced as rapidly in the second case, by one hypodermic injection of morphia.

We hope to have achieved with the foregoing at least this result; persuaded some physicians who had not been regularly using a thermometer to do so now, given them the information necessary to make them familiar with its employment, and stimulated further inquiry.

Hospital Reports.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

CLINICAL SERVICE OF WM. THOMSON, M.D.
Professor of Ophthalmology.
Reported by H. F. Hansell, A.M., M.D.

Four Cases of Traumatic Sympathetic Ophthalmia

Case 1.—Richard Ward, aged fifty-five. First presented himself at the clinic July, 1880. Three months earlier received a blow in the left eye from a small stone, while working in a mine, and six weeks afterward the right became inflamed. On the injured eye was a cicatrix extending from upper and outer section backward over ciliary body. Double iritis, with posterior synechiæ. Ordered atropia sulph. gr. iv to $\frac{3}{3}$j, several times a day, after bathing the eyes with hot water. Both eyes improved somewhat under this treatment. Iridectomy was proposed, but on account of the excessively hot weather, was postponed until fall. In the fall he went, by mistake, to Wills Hospital, where an iridectomy was performed on the right eye, March 25th, 1881. Returned to Jefferson Hospital with little more than light perception in either eye. Both irides

bound fast to cornea and lens capsule; anterior chambe s almost completely annihilated, and pupils clogged up with lymph. Iridectomy upward and inward, by Dr. Levis, followed by improved vision laterally. One week later an iridectomy on the other eye, followed by about the same result. On May 17th went home, nearly blind, for the new pupils had become occluded. October 17th returned; right, indistinct light perception, and left but little better. Partial cataract diagnosticated in both eyes. Iridectomy of left, by Prof. Thomson, downward and inward, with the effect of greatly improving the vision.

Case. 2.—Richard Black, aged twenty-five; admitted to house October 1, 1881, with following history: Fifteen years before, left eye was struck with piece of coal, followed by gradual loss of sight, accompanied, however, by no inflammatory symptoms, except for brief period after injury, until two years ago became absolutely blind, losing even light perception. One month before admission right was burnt by hot iron. On admission, left cornea clear. Traumatic iridectomy and cataract. T-2. Right, slight scar on cornea. Vision=$\frac{20}{LXX}$. Nerve injected and with indistinct borders. T. normal. Slightly sensitive over ciliary body, under duboisia right was tested and vision improved to $\frac{20}{XXX}$ by + 1.5. October 13th, left enucleated by Prof. Thomson. On second day vision in right began to improve, until, when he left the hospital, ten days after the enucleation, it had reached the normal acuity.

Case 3.—Alfred Darnley, aged sixty-three; struck in right eye eight years before coming to clinic. Severe pain and inflammation followed the blow, and some weeks later same symptoms developed in left. Lens had been extracted in right; iridectomy upward. Left, iridectomy downward. Vision on admission, right $\frac{20}{CC}$, left $\frac{20}{LXX}$. Ordered atropine one week. Returned with vision = right $\frac{6}{CC}$; left $\frac{20}{XL}$; vision in right brought to $\frac{20}{XL}$ by correcting for the aphakia and traumatic astigmatism. Left could not be improved with a glass. The above corrective he has worn for several months, to his complete satisfaction.

Case 4.—Sarah Garrity, aged nine. Presented herself October 28th. Was struck on left five years before, with an oyster shell. Vision completely lost. Three months ago right became sympathetically inflamed in its anterior part, and *one month* later left was enucleated. Since then vision in right has constantly decreased, until now she can only count fingers at two feet, and then only when held before window or other means of illumination.

Sympathetic ophthalmia holds a place in the domain of eye surgery second in importance to none. In this affection the sight of one eye is not alone to be considered, as in cases of cataract, occlusion of the pupil, corneal opacities, etc., but the total and irrevocable blindness of the patient. Cases of injury of the eyes are not infrequent. Indeed, by those who practice in the cities, or in the neighborhood of large mills, or foundries, or chemical works, they are constantly met with. How important, then, is their early diagnosis and correct treatment. The disease often develops from the slightest and most unexpected causes, *e. g.*, iridectomy or cataract extraction operation, and it behooves every surgeon treating a case of traumatism of the eye to be constantly on the watch for signs of sympathetic disease, and at the very first indication of *irritation* in the sound eye, to be prepared to operate, for after the stage of irritation has passed and *inflammation* taken its place, it is too late, and blindness is the result. Too much emphasis cannot be laid upon this principle. If any error must be made, let it be a too early enucleation rather than too late, and the accusations of conscience which will surely follow an opportunity of saving sight lost through culpable carelessness or inexcusable ignorance will be avoided.

But how does sympathetic ophthalmia make itself known, and by what symptoms is the surgeon to recognize it? Let us consider, then, its principal symptoms, as illustrated in the above cases.

The Ciliary Body.—Under this term I include the ciliary muscle in both its longitudinal and circular fibres; the ligamentum pectinatum, the zone of Zinn and the iris. The last is not generally classified as part of the ciliary body, but as it participates in the disease under consideration at almost the same time, and in the same manner, for clearness sake it shall be described as a part.

In Cases 1, 3 and 4, the ciliary body played the most important part in the sympathetic disease. In all, the iris was bound down fast to the anterior capsule and the pupil occluded by the products of the inflammation. The evident disease here, then, was plastic iritis, and as sympathy was the cause, we have every right to infer that there was also a plastic inflammation of the whole ciliary body, that the identity of the muscle was lost in the mass of exudation and that the function of that part of the eye was abolished. Microscopical examination of eyes sympathetically destroyed has shown that plastic cyclitis and plastic iritis have been the processes which have taken place in the ciliary body.

At the London International Medical Congress, August, 1881, Prof. Brailey said: "The uveitis which is so strikingly manifest in the well marked and severe cases of this disease presents certain definite pathological characters by which it can be distinguished histologically from other forms of inflammation. These characters, though they differ a little at different parts of the uveal tract, are nearly always recognizable in both eyes; though in the sympathizing eye the disease often, as is well known, begins as an iritis serosa with accompaning keratitis punctata, yet here also the peculiar characters of sympathetic ophthalmitis usually become visible at a later stage. The disease is not transmitted from one eye to the other by the passage of *structural change* along either optic or ciliary nerve."

How soon does this inflammation develop after the receipt of the injury? In the above cases the interval was different in each. In the first, six months; in the third, "some weeks"; and in the fourth, almost five years. Much depends upon the nature and severity of the injury and the part of the eye involved. If, for instance, a foreign body, such as a piece of iron, which would undergo chemical decomposition, were

lodged in the ciliary body, the initial inflammation would be more severe and the sympathetic inflammation sooner supervene than if the body were not capable of becoming chemically decomposed and were lodged outside of the ciliary body; or, again, if the substance inflicting the injury expended its force on the cornea, with only secondary involvement of the ciliary region, the second eye would suffer at a later period than if the ciliary body were primarily wounded. So that each case is a law unto itself, and we must be guided in our prognosis and treatment by, first, the constitution of the patient, age, habits, etc.; second, the character of the material causing the wound; and third, the position of the wound and the structure implicated.

The Optic Nerve.—The second case illustrates the second variety of sympathetic inflammation, in which the brunt of the inflammation is borne in the secondarily affected eye by the optic nerve and retina. The ciliary body, however, was not free, as was shown by the sensitiveness on pressure over the ciliary muscle. The patient complained of photophobia and *the gradual deterioration of vision*. On inspection no signs of inflammation could be detected in the anterior half of the eye; cornea clear, except slight opacity from the burn; iris responsive to light and mydriatics; no discoloration, no adhesions, either to cornea or lens capsule; no cataract, no loss of accommodation, no vitreous opacities. Then it may well be asked what was there to indicate that the eye was suffering from "sympathy" with its fellow. First, the optic disc was hyperæmic, its edges were obscured; the lamina cribrosa was invisible; the veins and arteries filled to their utmost capacity; and second, the complaint of the patient that his sight was gradually failing. The result of the enucleation clearly proved the diagnosis to have been correct. Before operation the vision was, by the aid of a hypermetropic glass, a little better than one-half. Ten days afterward, by same glass, vision was improved to normal, or $\frac{20}{xx}$, and the photophobia had disappeared. The period of incubation, if I may be allowed the term, was very long, nearly fifteen years, and, in this, differing in another essential particular from the three other cases.

Thus we see the symptoms and signs of sympathetic ophthalmia differ according to the localization of the disease, and may be classified under two heads:—

1. Anterior. Sensitiveness over ciliary body, particularly the superior portion; gradual failure of accommodation or early presbyopia; iritis and its consequences.

2. Posterior. Optic nerve hyperæmia, neuritis, neuro-retinitis, retino-choroiditis, hyalitis.

The two most conspicuous complaints of the patient are pain, gradual loss of sight.

At one time it was the almost unanimous opinion of ophthalmologists that the sympathetic influence was conveyed by the optic nerve; later the optic nerve theory was abandoned and the ciliary nerves accused of doing all the mischief. But now the two conflicting theories have met on a common ground, and it is believed that the disease is transmitted by both the optic and the ciliary nerves, or sometimes by one, sometimes by the other.

On this subject, Prof. Snellen addressed the Ophthalmological Section of the International Medical Congress, held in London, August, 1881, and suggested—

1. The explanation of sympathetic ophthalmia as a reflex irritation of the ciliary nerves, is not sufficient—

2. As a clue to further research, the hypothesis recommends itself, that sympathetic ophthalmia is to be regarded as a metastatic specific inflammation, in which special parasitical inflammatory elements are conveyed over to the choroid of the sympathizing eye through the dilated lymph paths.

In conclusion, I quote from Mauthner * his views in relation to the time in which sympathetic inflammation is developed, and his four strongly emphasized rules as to the proper time for operation.

"It is an important question, how long a time must elapse until the condition of irritation advancing along the nerve tracts reaches the second eye. Let it be understood at first that it is not possible to state the *latest* time for the development of the disease.

"In one eye destroyed through traumatism, the possibility of its influence on the second persists not only during the time when the first is painful, but even when a foreign body has remained innocuous in the interior of the eye for an indefinitely long time, may be finally called forth. It can, further, in a phthisical bulbus, which, on account of absence of every symptom of irritation appears a perfectly harmless neighbor, from unknown causes, or through formation of bony plaques in its interior, give origin to new painfulness, and thus open a posthumous source of irritation; and finally, there is not the slightest doubt that the germ of a sympathetic inflammation can lie dormant in a *painless* eyeball an undeterminable length of time. Indeed, the literature contains records of cases in which the sympathetic inflammation has developed only after periods of ten, twenty, and even fifty years. Much more important is it to decide the *earliest* time. In this respect it appears to us there is a relation between the length of time and the cause. *A priori*, we cannot measure the time. We have no sure means of knowing how much time must elapse before the diseased condition in the ciliary and optic nerves is transmitted to the opposite side, and although the early appearance of neuro-retinitis in the *wounded* eye is proven, we are still ignorant as regards the ciliary nerve, how long it continues before the same would place that eye in the necessary condition of irritation. *A priori* we must believe that the sympathetic neuro retinitis must develop in a shorter time than the sympathetic cyclitis, since the tract over which the inflammation must travel is much greater in the latter than in the former. Yet we cannot say that experience corresponds with this expectation. As a rule, one month to six weeks is the interval between the primary and induced inflammation."

Finally, the observations in respect to the ope-

* *Vorträge aus dem gesammt gebiete der Augenheilkunde.*

ration: "It *may* be undertaken as a prophylaxis; it *must* in stages of irritation; it *must not* in iritis serosa and plastica; it *can* (if the sympathizing eye is entirely blind, and not in a condition of active irritation) in irido-cyclitis plastica."

Accepting Mauthner as authority, we learn that enucleation is forbidden after the development of iritis serosa and plastica. What, then, shall be the treatment in that stage? Whatever is possible to be done will be accomplished by an energetic medicinal course; mercury in small doses, carried to ptyalism; rest in bed; mydriatics; leeches; hot water bathing; exclusion of light, and the best hygienic surroundings.

EDITORIAL DEPARTMENT.

PERISCOPE.

Cirrhosis of the Liver in Children.

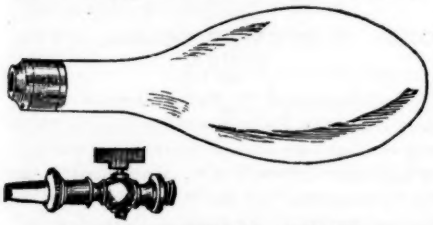
At a recent meeting of the Pathological Society of London (reported in the *British Medical Journal*) Dr. Pye Smith presented a specimen of cirrhosis of the liver which was not the ordinary hobnailed, nor the syphilitic, nor the rare form of cirrhosis due to adhesive inflammation of the portal canals, nor was it a case of so-called hypertrophic cirrhosis. A remarkable corresponding change was found in the lung and peritoneum. The patient was a boy, who was thirteen years old at the time of death; he had been ill for three years; he had the ordinary symptoms of chronic pulmonary phthisis, and also ascites and abdominal pain, which were attributed to abdominal phthisis. He died from exhaustion due to diarrhœa. The pleuræ were much thickened, and there was enormous interstitial thickening of the lungs, which contained numerous vomicæ; there was no caseous change in the lungs, or in the lymph glands, or any part of the body. There was evidence of extreme chronic peritonitis; in the pelvis the thickening of the subperitoneal tissue had formed a tumor, which consisted of indurated fat. The liver was scarred by bands of fibrous tissue; on section, irregular patches of congestion bounded by fibrous overgrowth were seen. The colon was in a condition of extensive ulceration. Microscopical examination afforded conclusive evidence of a true interstitial hepatitis. There was no history of any over-indulgence in spirits: there was no indisputable sign of syphilis; and careful questioning of the mother failed to elicit any family history pointing in that direction. Dr. Pye Smith did not think it could be regarded as a case of tubercular disease, for there was no trace of any caseous change, either in the lungs, lymphatic glands, or peritoneum. He thought it an instance of that tendency to a fibroid overgrowth in many of the organs, owing to some unknown cause, which was seen not very uncommonly in adults. Dr. Mahomed, who had seen the patient during life, and had witnessed the necropsy, had been struck by the amount of the cyanosis and its persistence for two years, and had made the diagnosis of chronic bronchitis, with consecutive nutmeg disease of the liver. This specimen gave rise to much interesting discussion on cirrhosis of the liver in children, especially concerning its etiology. It seemed to be the sense of the Society that these cases were the result of a tendency to general fibroid overgrowth in all the organs, due to some unknown cause. Many cases of cirrhosis of the liver have been met with, in which there was no history whatever of syphilis, tuberculosis, or gin drinking.

Wool-Sorters' Disease.

The London *Medical Times and Gazette* says: In his annual report on the health of the Borough of Bradford, for the year 1880, Mr. Harris Butterfield, the Medical Officer of Health for the district, remarks that during that period several cases of disease, known in that locality as "wool-sorter's disease," have occurred, six of which proved fatal. Although, Mr. Butterfield observes, in Bradford and its neighborhood the malady is peculiar to wool-sorters, yet the disease is not confined solely to them, but may affect all persons whose avocations bring them in contact with the tissues of animals infected with the complaint known as splenic fever or anthrax. Butchers, farm laborers, and workers in horsehair, have contracted the disease, and it is probable that many hitherto unsuspected sources of infection exist. What is yet known of the disease as it occurs in the Bradford district is due, Mr. Butterfield continues, to the research and investigation of Dr. Bell. The Sanitary Committee of the town, assisted by delegates from the wool-sorters themselves, have drawn up a code of regulations to be observed in all factories where foreign wool is dealt with, and since the adoption of these rules no case of wool-sorters' disease has occurred in any of the establishments where they are in force. In addition to the precautions agreed to, some firms require the man who steeps the bales to wear a respirator and long gloves. It is still doubtful, Mr. Butterfield thinks, whether the hairs and wools admitted to be noxious are the only dangerous materials. Anthrax, as an epizoötic, is not confined to the animals from which the admittedly dangerous hair is obtained, but is known occasionally to infect all animals. It is not because home and colonial sheep's wool is never infected that sorters engaged solely on this material do not contract wool-sorters' disease, but because the greasy nature of this description of wool prevents the germ bearing particles from floating in the atmosphere.

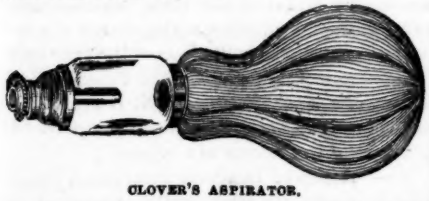
Lithotrity at a Single Sitting.

The London *Lancet* of January 7th, 1882, contains a lecture by the eminent English surgeon, Sir Henry Thompson, whose name has become indissolubly connected with this operation, and from it we quote the salient points. He always commences his lectures on lithotrity by sketching its brief history, which differs so widely from that of lithotomy, which dates back some twenty centuries. The first efforts to crush a stone were made early in the present century, and culminated in the first performance of the operation by Civiale, in 1824. After a considerable interval, during which the operation underwent many modifications, it was proposed by Heurteloup to remove débris on a large scale, and complete the operation at a single sitting, but he did not succeed in this. Before this time, Sir P. Crampton, of Dublin, had invented an apparatus like a large soda water bottle, from which, by means of an exhausting syringe, he removed the air and then applied it to a large silver catheter previously introduced into the bladder. Some twelve or fourteen ounces of water had been injected into the bladder, so that on turning a tap attached to the receiver a powerful rush into it of water and débris took place. This was the first aspirator.



SIR PHILIP CRAMPTON'S ASPIRATOR.

This, however, was found to be too rough in action. Soon afterwards Mr. Clover designed an india-rubber aspirator with a glass cylinder, which answered very well.



CLOVER'S ASPIRATOR.

In 1878 an important change was proposed by Professor Bigelow. He advised that the stone, however large, and without respect to any collateral considerations, should invariably be removed at one sitting, by the use of more powerful lithotrites. larger evacuating catheters, and a stronger india-rubber bottle than had before been used. Professor Thompson has now resorted to this method in 101 cases, and regards it as a valuable improvement on any method previously employed. In describing the operation, he says that a stouter lithotrite, and one which will bite into a hard stone and *break* it into fragments first, instead of *crushing* it into débris, is preferable. When a stone of medium size has been broken up, and by repeated crushings during some eight or ten minutes is obviously reduced, or nearly so, to débris, the lithotrite should be withdrawn and an evacuating catheter, Nos. 15, 16, to 18, according to previous examination of the urethra, should be introduced into the bladder, when urine and some debris will be expelled. To this catheter the aspirator is next to be applied.

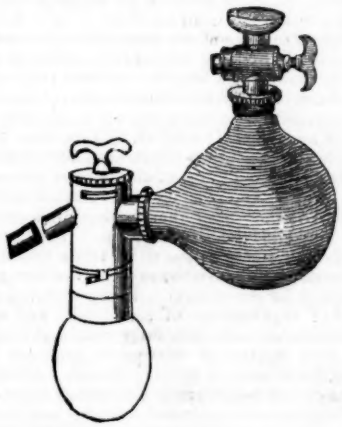
He found the following points essential in determining on the kind of aspirator to be used:—

1. It should be light and small, so as to be easily grasped and managed by one hand.

2. It should have an opening *at the top*, by which it can be filled with water, to which all air accidentally admitted, if any, will arise, and by which it can escape.

3. Its *lower part* should be connected with the evacuating catheter by the shortest route to the bladder, and in such a manner that the aspirator can be detached with ease, and without loss of any contained water in so doing.

4. There should be a trap into which all fragments must fall, and by which they are securely retained. Such an apparatus is shown in the accompanying figure.



SIR HENRY THOMPSON'S ASPIRATOR.

Recent change in the situation of the trap.

The aspirator being attached to the evacuating catheter, alternate pressure and expansion takes place, in obedience to the hand of the operator, who at the same time modifies the position of the catheter according to his judgment on observing the arrival of small fragments and débris in the trap. When much has come over, perhaps only a large piece or two being felt, which evidently cannot issue, the aspirator is removed and a lithotrite introduced, and they are crushed, when the aspirator is again applied and the bladder is completely emptied. This operation must be repeated as long as fragments remain. In from ten to forty minutes a uric acid calculus of considerable size may be thus broken up and removed. He has never consumed more than fifty minutes.

Micrococci in Lupus.

The London *Lancet*, speaking of this subject says:—

The domain of microphytes is fast extending its limits. It is not long since leprosy was declared to be due to their development; syphilis and tuberculosis are believed by many to be largely due to them, and now lupus, an affection which has some undoubted affinities with tubercle, has yielded to Max Schüller, of Griefswald, evidence of micrococci mingled with the cell products. His conclusions are given in a short paper in the *Centralblatt für Chirurgie*, No. 46, a reprint of which is before us. The paper is entitled "Histological Studies on the Micrococci of Lupus," and the author says that, for more than a year he has diligently examined every specimen of lupus he has been able to obtain in the recent state, for these organisms. At first he met with not very satisfactory results, due, he thinks, to the fact that he sought for them in the main mass of cells composing the lupus nodule, and also because of the staining material he used. Improved methods yielded better results. To guard against the intrusion of micrococci from without, the freshly extirpated lupus masses were placed at once either in 2 per cent. aqueous solution of carbolic acid, or treated with 3 per cent. solution of the acid in absolute alcohol. These preparations were then cut by Roy's freezing microtome, either at once or after being left a longer or shorter time in the carbolic solution, which was frequently renewed. The sections were then placed in alcohol and stained by Weigert's method, by 1 per cent. aqueous solution of gentian-violet, and, after sufficient staining mounted in oil of cloves or in glycerine. Only the best and most carefully stained sections were examined, and that under high powers, with concentrated illumination. The smaller nodules lying outside the chief focus in the subcutaneous connective tissue were the best to be examined for micrococci. These nodules, composed of small groups of round cells and a few pale epithelial cells with large round or oval nuclei, were the seat of micrococci granules lying between and around the cell groups. At certain points of the periphery of the nodule short rows of such granules extended into the neighboring connective tissue, sometimes reaching to the next cell mass. The micrococci were not so thickly massed in the tissues as in many acute infectious processes—*e. g.*, in acute infectious osteo-myelitis—but in well-stained preparations they were clearly and sharply defined, and could be detected in the smallest nodules lying far away from the main mass, and even around isolated epithelioid cells, the micrococci radiating from these into the tissue around. In that way stellate masses of micrococci, staining like the cells they surround, come clearly into view, amidst the unstained connective tissue. Probably, these solitary cells, surrounded by micrococci, are the smallest foci of development of the lupus nodule. Owing to the greater accumulation of cells in the completely formed lupus nodules, it is much more difficult to detect the organisms in them, but in very thin sections Schüller found them between the cells and giant cells. In one case of lupus of the lip he found considerable masses of micrococci in the centre of disintegrating nodules. Micrococci can, however, be regularly recognized at the circumference of larger lupus nodules, at places where offshoots of cells spread like roots into the surrounding connective tissue, the extremities of such processes being surrounded by the granules, less closely arranged than in the isolated foci before mentioned. He invariably found these also in the hyperplastic sebaceous glands within the lupus territory, and sometimes in the hair-follicles and around the sweat-glands. He also found them in the walls of the small vessels, surrounded by round and epithelioid cells. In all parts the micrococci form a more or less complete network, by the processes which their masses send out into the neighboring tissue. In a case of ulcerating lupus nasi he found micrococci thickly grouped in the hyperplastic epidermal papillæ around the ulcer. Finally, he has found micrococci in lupus most abundantly in the more recent formations and in the softer tissues, being best seen in portions of luxuriant lupus of the face, lips and nose; more sparsely in old dense lupus foci, which are now and then observed in the skin of the extremities.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——"Diseases of the Ear in Locomotive and other Engineers, Firemen, and Conductors, which may endanger the lives of the traveling public," by Laurence Turnbull, M.D., comes to us in the form of a reprint from the "Transactions of the Medical Society of the State of Pennsylvania." The paper contains many valuable suggestions, and a recommendation that the Legislature be petitioned to pass a law requiring all railroad employés to be examined for their acuteness of hearing, by means of the voice, watch, clock, bells, whistles, etc., before taking charge of a fast train on any railroad in the State of Pennsylvania.

——"Removal of a Cyst of the Pancreas." A portion of a paper read by Dr. N. Bozeman, before the New York Pathological Society. It comes to us in the form of a reprint.

——"Report of Deaths in Providence, Rhode Island, during the year 1881." Compiled by Edwin M. Snow, M.D., Superintendent of Health and City Registrar.

——Godey's Lady's Book for February, is a sparkling number. The steel plate is a beautiful sketch drawn by Darley, representing a scene in "The Cricket on the Hearth," and the novelette, "Cherry Snows," is a thrilling love story from the pen of Carrie Beebe Crocker. The shorter stories, Poems, Recipes, Puzzles, Games, etc., are all first-class, and the Fashion and Work Departments are replete with the very latest designs.

THE

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SANITATION AND PUBLIC EDUCATION.

A bill introduced into the Legislature of Ohio by Hon. HARVEY RICE, furnishes food for some remarks on this very important question. School hygiene is the foundation stone of public health.

The young and growing body is profoundly influenced for good or evil by hygienic surroundings. Bad sanitary conditions may so impress the delicate organization of a naturally weak child, as to render him a lifelong invalid, and may so influence a vigorous constitution as materially to lessen his mature powers for private and public work.

It is very gratifying to find our law makers commencing to recognize the great importance of this preventive branch of medicine in connection with public education, and we most sincerely hope and trust that no time will be lost in making this bill a law, and that the good example thus set will meet with a universal following.

The bill under consideration confers upon the Boards of Health of cities of the first and second classes the authority, and makes it their duty, to cause sanitary inspection of the schools in their cities. For this purpose the Health Boards are authorized to secure the services of some physician (not a member of the Board) who shall possess the requisite qualifications, to make all such sanitary inspections, and he shall be allowed the aid of one or more assistant physicians, if necessary. The principal and his assistants shall be remunerated for their labors by the payment of such a sum as the Board shall consider just and reasonable.

The principal physician is compelled to make thorough inspections of the sanitary conditions of all the public schools, investigate any causes that may tend to impair the health of the pupils, and note any requisite hygienic improvements or modifications that may be required. All of which he shall report to the Board of Health quarterly, or oftener, as they may require.

Printed copies of all sanitary regulations approved by the Board must be furnished to the superintendents and teachers of all schools, and it then becomes their duty to faithfully carry them out.

They must also cheerfully, voluntarily, and thoroughly make any suggestions and give all information in their power, that may seem necessary to further his investigations, to the inspecting physician; and furthermore, a penalty of not less than five nor more than fifty dollars fine shall be imposed upon any one who may neglect this provision.

Bravo! this is a big step in the right direction. Every one interested in human welfare and the prevention of disease will owe Mr. RICE a vote of thanks if he succeeds in making a law of his bill.

The West is a wonderfully great country. It is rapidly getting ahead of the East in everything. This new evidence of progress tends to show that even in that development which usually comes only with age and refinement, after the bustle of development of material resources has become settled, the West is ahead of the East. It now becomes the imperative duty

of the legislatures of all our States to follow this wholesome example set them by Ohio.

There is one proposition which we desire to announce in this connection and to have remembered. The history of the world furnishes us abundant evidence of the fact that the very large majority of mankind pay no attention whatever to preventive medicine. When sick they rush off to the doctor, but they absolutely neglect the precautions necessary to prevent sickness. Well, such being the case, it becomes the bounden duty of those who have the power, to force these persons to take care of themselves, and to prevent, as far as possible, the inroads of disease, misery, and death.

We sincerely trust that before long we will have the great pleasure of chronicling the introduction of many such bills into our different legislatures. We shall await anxiously the fate of this one.

THE GERM THEORY AND SOME OF ITS PRACTICAL RESULTS.

The laborious researches of KLEBS, NAUNYN, PASTEUR and others, into the actual cause of the so-called infectious diseases, have brought some practical results already, and promise us daily more. As is well known, minute organisms—micrococci, for instance, in scarlatina and diphtheria; bacilli in typhoid and typhus—have been detected by these investigators as the cause of those maladies. Salicylic and carbolic acid and other disinfecting remedies which destroy these animalculæ would be the proper therapeutic means in such cases, were it not for the fact that they cannot be given in doses large enough to act effectually as physiological antidotes, if we are permitted to use this expression. The animalculæ generally collect in such great quantities in the system they once infect, that very large doses of these remedies are necessary to destroy them. At the same time the reproduction of these low organisms progresses so rapidly, that the means for their destruction have to be employed almost continuously, and not only large, but very frequent doses become necessary, therefore. If the acids above mentioned would be administered internally, as often, and in doses sufficient to fulfill their indication, the remedy would become almost more destructive and dangerous to the system than the infectious animalculæ, the micrococci, or the bacilli. Here we have to thank KLEBS again for an important discovery. He found that the benzoate of sodium or of magnesium destroys the bacilli of typhoid fever, while, even in very large doses, it does not act deleteriously on the system. As the bacilli accumulate in large masses, in this disease, on the mucous membrane of the nose, mouth, pharynx, bronchial tubes and intestinal canal, a strong solution of the remedy mentioned is applied to and brought in direct contact with these parts, and for this purpose it is used in form of injection, mouth wash, gargle, by inhalation, and administered internally, viz: in doses of about twenty grains every two hours, so that altogether—*i.e.* by the different modes of its application—about three hundred and twenty grams of the remedy are daily given to the patient. KLEBS cites the case of a workman in his own laboratory, who had been exposed a great deal to the bacilli, while being occupied with their culturing, and who was attacked by what promised to be a very grave form of enteric fever. But after having been treated for nine days with the benzoate of sodium, and in the manner described, the fever and every other symptom totally left him, and a rather remarkable weakness was the only sequela of which the patient complained for some weeks longer. Considering the well known reliability of KLEBS, the remedy, used as recommended, merits undoubtedly a further trial, and we draw, therefore, the attention of our readers to the same, especially as it can now be procured in our country, from almost any wholesale drug house, and as it is cheaper than either salicylic or crystallized carbolic acid.

Another practical result of the researches connected with the germ-theory is the following: PASTEUR took a drop of blood from a chicken, having died of chicken cholera, or from a sheep which had died of anthrax, and dropped each drop into a small quantity of chicken or mutton tea (prepared like beef tea), the vessels being

closed with a cotton stopper, which allowed entrance of air but no foreign particles that might be contained in the latter. These solutions he exposed for two weeks to the air, when he took one drop of each, and put this into a fresh, pure chicken or mutton tea, which then again was left for about two weeks exposed to the atmosphere. After repeating the same experiment from four to six times, he procured this way, at last, a solution, which, when in the small quantity of a few drops injected under the skin of the respective animal, would hardly produce any local and no constitutional symptoms, but protect the animal as surely against the disease itself, the "diluted" poison of which it was inoculated with, as a successful vaccination with cowpox lymph will protect a human being against variola.

The experiment has lately been tried in public, by the authorities of one department of France, and it proved so successful that the general adoption of this new form of vaccination of animals has been recommended by the government, and begins generally to be practiced in France. As especially chicken cholera is a frequent disease in our country also, it should be the duty of physicians to draw the attention of farmers to the experiments and results gained. And as pleuro-pneumonia of cattle is an infectious disease still prevalent in some parts of our country, and the same can be said of an epidemic disease among swine, it may be well for those who have the opportunity, and live in such localities, to try a similar method in these diseases, and observe if the same results may be obtained.

Here is an opportunity for some member of our profession to make his name well known all over the country. It must not be forgotten, however, that the exposure of the culturing liquid to the air for a certain time is a paramount necessity.

SHOULD SICK MEN BE HUNG?

A case out in Kentucky at the present time makes this a pertinent question. A man convicted of murder was sentenced to death, and the date for his execution fixed. During the interval between his conviction and the date fixed for execution, he was seized with smallpox. At first the Governor of Kentucky (who is a physician) said that this would make no difference, and that the criminal must hang on the day appointed. Subsequently, however, he has granted a respite of nearly a month. We imagine that most persons will approve of this last course of His Excellency. It is revolting to the natural sense of propriety in human nature to think of the hanging of a man whose body is covered and disfigured with the eruption of a loathsome disease like smallpox. Of course, there are two sides to every question, and no doubt there are many who would claim that this man should be hung on the day appointed, whether sick or well.

They would argue that it made no difference to the criminal, when about to be killed, whether he happened to be in good health or not; and they might even claim that such an execution would be doubly effective in dissuading others from becoming murderers, since the idea of hanging a probably dying man would carry a greater impression with it of the sternness and inexorableness of the law.

In this particular case there may have been a special reason for the Governor's leniency, to be found in the fear of disseminating the disease. Such precautions could have been observed, it is true, as would have rendered this danger almost *nil*, but he no doubt thought it better to err on the safe side, and in this view, he should receive the support of the profession. We would take it that such a rule as the following would satisfactorily meet the possibility of more such cases as this one arising.

Whenever a condemned murderer is taken with a contagious disease, he should be reprieved until he is well recovered; but sickness of a non-infectious nature should not interfere with the execution.

Since hanging is justifiable, because by the fear of it would-be murderers are restrained in the execution of their diabolical acts, so the more revolting and more terrible it is made to seem to them, the more deterring influence will it wield.

Notes and Comments.

Flowers in Sleeping Rooms.

Since it is a very common practice, particularly among females, to have flowering plants in their sleeping apartments, and since physicians are often asked whether this practice is injurious to health, the following remarks from the London *Lancet*, seem very timely:—

The public are again warned against the use of flowers in sleeping apartments; and wonderful stories are told of the deleterious effects which have followed their presence in a limited atmosphere respired by invalids. Curiously enough, these appalling "instances" of the evil influences of plants do not for the most part apply to flowers. Nevertheless, we agree that it is safe to banish growing plants and flowers from bedrooms. They can do no good, and they may do some harm, if only by rendering the air of the apartment irritating to the delicate lining membrane of the breath organs. We are not disposed to endorse or accept the charge brought against plants and flowers generally, but it is well to err on the side of prudence; and although it cannot be denied that these embellishments form most pleasing objects for the eye, this advantage must be sacrificed, if, as alleged, they are injurious. There can be no doubt that some plants give off noxious emanations, and others may scatter particles which prove irritating; but are all vegetable growths thus injurious? However, as we have said, it is well to be over-cautious. So flowers and plants must needs be banished, though we part with them with unfeigned reluctance.

Nitrous Oxide as an Anæsthetic During Labor.

The London *Medical Times and Gazette* tells of the recommendation by Dr. Stanislaus Klikowitsch, of nitrous oxide gas during labor. He employs a mixture of four parts to one of pure oxygen, kept and supplied under a sufficient pressure to make its density the same as that of atmospheric air. For ob-tetric purposes he carries it in an india-rubber bag, which he puts under the pillow of the patient. He claims the following advantages for it: 1st. Its use is free from danger either to mother or child, and it has no effect in prolonging labor. 2d. It does away with pain in all the stages of labor. 3d. Complete anæsthesia can be produced without loss of consciousness, and therefore without diminishing the action of the voluntary muscles. 4th. It does not produce vomiting, nor excitement, nor any bad after effects. 5th. The anæsthesia can be continued throughout labor without any cumulative effect, since, during the intervals of pain, the effects of the preceding inhalations completely disappear. 6. The presence of the medical man is not indispensably necessary for the administration of the anæsthetic. With the editor of the *Times and Gazette*, we must take exceptions to No. 6; it is a very dangerous and reprehensible custom to allow any one not a competent physician to administer any anæsthetic. The only objections urged against the use of nitrous oxide in this connection are its comparative costliness and inconvenience of transportation.

Calcified Adenoma of Scalp.

At a recent meeting of the Pathological Society of London, reported in the *Medical Times and Gazette*, Mr. Eve showed a specimen of this condition. It was a small, firm tumor, lobulated and encapsuled. At first it was thought to be fat. Before microscopic preparations could be made it had to be softened in an acid solution. It was then found to consist of columns of epithelial cells in a fibroid stroma. These columns varied in size; some were branched, some were tortuous. The epithelial cells were small, about the size of those found in the sudoriparous glands, having nuclei. The family history of the young man from whom the tumor was removed was interesting. His father and his father's sister had both suffered from similar tumors. These tumors resembled some which were shown at the International Medical Congress, by M. Malherbe, who described them as calcified epitheliomata of the sebaceous glands. He could not agree to regard them as epithelioma, as there was no infiltration of the surrounding tissues, no leucocytes, and the size of the cells also differed. He thought that they most resembled what English pathologists agree to call adenoma. He also showed sections of a second tumor of the same nature.

Hæmatology.

The London *Lancet* says that Bizzozero and Salvioli have been recently experimenting on the phenomena of blood formation. They endeavored to stimulate the hæmatogenic function of the spleen by copious venesection; with dogs and guinea pigs they succeeded, but failed with rabbits. As a result of their experiments, they conclude that both red and white corpuscles are formed in the spleen; though this view is in opposition to that held by Neumann and Fryer.

Cough of Tuberculosis.

Dr. Whiteway Wilkinson writes to the London *Lancet* that he has frequently been able to afford relief in the early stages of pulmonary tuberculosis by giving the patient, every half hour, alternate doses of sulphate of copper and sulphate of zinc—1.50th of a grain. Without any other drugs the cough gradually gave way.

A New Purgative.

The *Concours Médical* reports that Dr. Rabuteau has experimented with sulpho-phenate and sulpho-cresylate of soda, and has obtained excellent purgative effects with both. A dose of from 20 to 25 grams (ʒv to vj, gr. xv) will induce seven or eight stools in the course of a day. Those salts are eliminated, almost totally, without any change, and their use is advised in cases of fetid diarrhœa.

Detection of Impure Water.

Dr. John Lowe writes to the London *Lancet* about the great danger from impure water to which travelers are exposed, and suggests a practical remedy. If ten or fifteen drops of *Nessler's* test were enclosed in a thin glass capsule and hermetically sealed, the fluid would keep for a length of time. A person about traveling could supply himself with a number of these, and whenever the purity of a water was suspected, one of the capsules should be broken into a wineglass and a spoonful or so of the water added, when all doubt may be set at rest.

Clinical Lessons on Syphilis.

The *Concours Médical* accompanies a notice of the second edition of Fournier's valuable work with remarks, from which we quote:—

Syphilis in all its forms is here treated in a masterly way, and nothing can surpass the boldness and clearness with which the subject is handled. After reading this work, it would seem as if errors of diagnosis were quite impossible. All the accidents attending syphilis, all the consequences directly, or remotely traceable to it, are dwelt upon, and the importance of careful scrutiny into the previous history of the patients is demonstrated.

Sixty pages of this work are devoted, by Prof. Fournier, to the treatment of syphilis. He recommends the use of mercury, notwithstanding all that has been said, of late, regarding the uselessness and dangers of this therapeutic agent. He reviews the different ways of administering mercury, and finally reaches what he terms *his method of successive treatment.* This consists in dividing the treatment into active periods, during which mercury is administered, and into periods of rest, or disencumbrance. According to him, there is nothing excessive in leaving patients under mercurial influence for as long even as two years, including the periods of discontinuance, or rest. The general condition of each syphilitic patient will indicate what auxiliary medication is required, as mercury alone should not be administered. This is but a very brief sketch of this new edition, which contains many valuable additions not to be found in the first.

Contagious Pneumonia.

Dr. R. Jelley, writing to the London *Lancet*, details two cases in which pneumonia seemed to be contagious. He inclines to the belief that there is a contagious form of pneumonia, though he believes it to be very rare. The first case was that of a farmer, aged forty-five. He died of pneumonia. The day before his death, his wife, who had nursed him, was taken with the disease, and she also died. Her sister was confined to bed for one day, with bronchitis.

The second case also occurred in a farmer, who died. His sister, who had been in frequent attendance on him, was taken with pneumonia the day her brother died, but she recovered. All these cases were seen by a consulting physician, as well as by Dr. Jelley, so that there cannot be much doubt about the correctness of the diagnosis. A careful examination failed to disclose any cause for the second case, in each instance, other than contagion.

Boring the Ears.

The London *Lancet*, editorially referring to this subject, very forcibly and very sensibly scouts the idea that boring the ears can have any effect on sore eyes. It reminds us that the only possible influence this operation could have on the eyes would be in so far as it acted as a counter irritant, and since the wounds in the ears heal so rapidly, this argument amounts to nothing; the same, and even better results could be derived from blisters behind the ears.

Treatment of Phagedenic Ulcers.

Dr. Vidal, in *Concours Médical*, recommends:

℞. Vaseline, ʒx
Pyrogallic acid, ʒj. M.

Make into an ointment and apply, morning and evening.

Special Reports.

No. III—INFECTIOUS DISEASES.

Smallpox.

INCUBATION.

M. Marais (*Année Méd. de Caen et Calvados*) had the opportunity of studying, in several cases, the duration of the period of incubation in this disease, and found it from eleven to twelve days. He observed that variola is contagious from the début of the disease, and not alone at the period when desquamation of the pustules is taking place. According to M. Barthélemy (*Thèse de Paris*, 1880), the period of incubation may vary from the ninth to the fifteenth day, and that of invasion from thirty-six hours to twelve days.

A question that has at different times awakened discussion is, whether vaccination during the period of incubation has prevented the complete development of the disease. A case reported by Seymour Sharkey (*Lancet*, Vol. 2, 1877), would seem to decide the question in the negative, for on the eighth day of the vaccinal eruption supervened the classical prodromata of smallpox, followed, after the usual period, by the eruption. The disease ran its usual course, with primary and secondary or suppurative fever, special thermometric curve, etc.

On the other hand, M. Courtes, in the history of an epidemic observed at Adissan (*Thèse de Montpellier*, 1881), states that five persons were vaccinated, or re vaccinated during the period of incubation; one only succumbed, and this was a child, seven years of age, who was vaccinated but two days before the eruption appeared. The other four had the disease lighter, particularly those vaccinated a number of days before the eruption appeared.

THE INITIAL ERUPTIONS OF SMALLPOX.

Mr. Seymour Sharkey (*St. Thomas Hospital Reports*, ix, p. 165) divides the rash into several categories:—

(A) Erythematous rash, subdivided into several varieties: 1. Scarlatiniform rash, which is very frequently observed, and resembles almost absolutely the eruption of scarlet fever on the second day. But the erythema of variola becomes more rapidly generalized than that of scarlet fever, and does not commence on the face and neck, as does this last. Again, it is of a more uniform coloration than the scarlatina eruption, and is not accompanied by the very small elevations, due to the engorgement of the cutaneous papillæ, found in the latter disease. Finally, the inguinal region very frequently presents hemorrhagic effusions, which render the diagnosis certain, when associated with the simple erythema of the trunk. 2. Morbilliform rash is less common than the preceding. As in measles, the spots are separated by intervals of normal skin, but the face is not attacked by the exanthema, which generally disappears suddenly at the moment of the eruption of the smallpox pustules.

These two last erythematous eruptions are generalized, affecting the entire cutaneous surface; those which remain localized are less well known. With Simon, of Hambourg, Mr. Sharkey insists on a form of erythema which remains limited to the extensor aspect of the limbs, for instance, over the olecranon and the patellæ. Our author reports a case of this kind, where there existed, conjointly with variolic pustules of the face, large red patches over the tibiæ, around the knees and along the extensor surface of the forearm.

Sometimes, but not often, this form of localized rash affects exclusively the flexor surfaces, and this is particularly true for the hemorrhagic form. Mr. Sharkey gives a case where the simple erythematous rash, in no way hemorrhagic, presented itself in the armpits, groins, etc., without at all appearing over the extensor surfaces until later, when the smallpox eruption was plainly apparent.

(B) Hemorrhagic rashes. These are the best known. The most frequent, and at the same time, the most benign variety, consists of a punctiform eruption of petechial spots localized in the groins, the armpits, and at the bend of the elbow. Another variety, and of very grave import, has the appearance of a diffused wine-colored eruption, affecting mostly the same parts as the other. Very frequently the scarlatiniform, or the morbilliform rash is associated with these petechial eruptions.

As regards the prognosis to be deduced from the initial eruptions, Mr. Sharkey thinks that the disease is apt to be of greater gravity when the rash is very extensive or dark colored.

TEMPERATURE IN TRUE VARIOLA.

Dr. Frölich, in *Deutsch. Med. Woch.*, *No.* 48, 1880, gives as the result of his researches on this subject, that during the prodromal stage the course of the temperature presents no characteristic features. On the first day the temperature does not differ from that of other diseases which commence with a chill; until the end of the first week it has the same course as in varioloid, scarlatina, pneumonia, and simple recurrent fever.

It is during the second febrile exacerbation

that the temperature becomes characteristic and renders the diagnosis more certain. But it is only when the course of the temperature is considered as a whole, that it offers any pathognomonic proof, its course during the prodromal stage, or that of invasion or suppuration, offering no special characteristics.

HEMORRHAGIC SMALLPOX.

M. GACHON (*Thèse de Paris*, 1880), gives several cases of this form of variola, where the patient succumbed before the appearance of any species of eruption.

The symptoms of invasion were unusually severe, the patients then falling into a state of extreme collapse without exaggerated fever, but with ecchymotic spots disseminated over the body, often preceded by a scarlatiniform rash. The conjunctiva was almost always congested, the roof of the palate covered with bloody sugillations: the urine also containing blood. Death supervened after two or three days.

M. LANDRIEUX relates the following facts concerning five Esquimaux (*Soc. Médicale des hôpitaux; Union Med.*, Feb. 12th, 1881): They arrived at Paris January 2d, having lost three of their companions during the voyage, two without eruption and the third on the second day of the variolic eruption. After arriving they were vaccinated, on January 5th, and were admitted to the hospital on the 9th. An infant of 14 months already presented the eruption and died on the third day; the four others also succumbed, two during the period of invasion, and two during the period of eruption; these last suffered from a profuse and continued bronchorrhagia, while their urine consisted almost entirely of blood. The most important anatomical alterations, besides those produced by profuse hemorrhage, were the enormous development of the liver, which weighed from four to six pounds, and was in a state of extreme steatosis; the congestion of the kidneys, with considerable augmentation in volume, and fatty granular degeneration of several tubes, and the fatty deposit in the heart, interstitial and not affecting the muscular fibres.

A case of purpura variolosa, reported by Dr. NIXON (*Dublin Jour. of Med. Science*, Oct. 1877) well demonstrates the difficulty in arriving at a diagnosis between purpura hemorrhagica and hemorrhagic smallpox.

A young man, 28 years of age, had, suddenly, several violent chills, without rachialgia or vomiting. On the fourth day a livid, erythematous eruption appeared on the back of the hands and forearms. The eruption soon became generalized, with more marked coloration than is observed in scarlatina. Simultaneously there appeared on the belly and the inferior limbs petechial spots and ecchymoses, but the eruption did not at all affect the face.

On the fifth day hematemesis and hemorrhage from the bowels occurred; and the patient succumbed the same evening. At the autopsy the blood was found black and of extreme fluidity.

The lungs presented the lesions of diffused sanguineous apoplexy. The liver was the seat of fatty degeneration, resembling the state of the organ in steatosis produced by phosphorus. The kidneys were of the normal condition.

M. RENOU considers this a case of hemorrhagic variola.

INFLUENCE OF SMALLPOX ON PREGNANCY.

M. JOBARD, in a very interesting monograph on this question (*Thèse de Paris*, 1880), admits that miscarriage, exceptional in varioloid, is common in discrete variola (in one case out of two), and is the rule in the confluent and hemorrhagic varieties of the disease. It takes place almost always during the periods of invasion or suppuration.

Abortion is induced: 1st. By the death of the fœtus, resulting from the infection of the mother, or direct variola affecting the product of conception. 2d. From uterine or placental hemorrhage. 3d. From primitive uterine contractions, the least frequent cause.

Abortion may give rise to redoubtable hemorrhage, even in the non-hemorrhagic forms of the disease. Puerperal septicæmia is not to be especially feared.

In cases where miscarriage does not occur the temperature generally remains below 39.5° C.; if it mounts higher there is imminent danger for the fœtus. The author is of opinion that the disease is not invariably communicated to the fœtus in utero, and when contagion does take place it is generally at an advanced period of the malady; in all cases it is proper to vaccinate the child, as if it had not been so nearly exposed to contagion.

LOTHAR MEYER (*Arch. f. path. An. und Phys.*, p. 43, 1880), expresses a somewhat similar opinion; although the smallpox contagium traverses the placental vessels, the receptivity of the fœtus for the disease is much less marked than that of the newly born child. Again, vaccination is less apt to be successful in the newly born infant than when older, but when the virus is sufficiently active and the operation well done, the results are generally satisfactory. When there is no fever, and the inflammatory areola is absent

after vaccination of the newly born, immunity should be considered incomplete.

NERVOUS PHENOMENA DURING AND CONSECUTIVE TO THE ERUPTION.

The dominating idea of the monograph of M. BARTHÉLEMY (*Thèse de Paris*, 1880), is that the variolic virus acts through the intermediary of the infected blood on the nervous centres. This he considers proven by the constant presence of fever, cephalalgia, rachialgia, and the temporary or permanent paralysis which frequently accompanies smallpox, and finally, by the characters of the eruption itself. On the other hand, the toxic nature of the virus is shown by its power of inducing steatosis of the heart, the kidneys, and the liver. The spinal cord and the sympathetic system appear particularly affected, as is proven by the absence of cerebral troubles, or delirium, in the gravest forms of the disease, when there has been no anterior tendency to alcoholism.

M. SAINT-PHILIPPE (*Gaz. Méd. de Bordeaux*, No. 44, 1879) notes, in one case, temporary labio-glosso-laryngeal palsy during the period of eruption, followed during the period of suppuration by paraplegia, which very gradually disappeared, as did also the other symptoms of nervous derangement. M. MANISSOLLE (*Thèse de Paris*, 1880) has found that the nervous phenomena consecutive to variola are sometimes of cerebral origin, characterized by delirium, followed by an alteration in the disposition of the patient, feeble memory, general mental dullness. Frequently speech is affected; in some cases there is aphonia. The author also notes ataxy of the upper and lower limbs, with conservation of sensibility. The pathogenesis of these accidents is obscure.

SMALLPOX AND CEREBRO-SPINAL MENINGITIS.

Dr. GRIMSHAW (Dublin *Jour. of Med. Sci.*, May, 1876) reports a case where the symptoms were those of cerebro-spinal meningitis, where even the diagnosis seemed confirmed by the autopsy. But it was learned, subsequently, that the patient was brought to the hospital from a locality where smallpox was epidemic; and immediately after his death eight patients in the same ward were attacked with the disease. Dr. GRIMSHAW, *apropos* of this case, insists on the sometimes insurmountable difficulty of diagnosis between malignant black smallpox and cerebro-spinal meningitis. Rachialgia exists in both, and is not always cervical in variola and lumbar in spinal meningitis, as has been asserted; vomiting is not a sufficient differential sign, for it may be wanting. Even the anatomical diagnosis is a matter of discussion, for in the malignant form of meningitis no pus is found in the meninges, but hemorrhagic suffusions are often present. It was for this reason that STOKES put all these malignant fevers under the same generic designation, grave purpuric fever.

LUNG TROUBLES IN VARIOLA.

The pulmonary lesions of variola are studied by M. BREYNÆRT (*Thèse de Paris*, 1880); he describes the pustules of the trachea and bronchial tubes, which do not descend to the smaller tubes. He then considers the actual pulmonary alterations, which are, in order of frequency and gravity: 1. Splenization or inflammatory congestion. 2. Spleno-pneumonia. 3. Broncho-pneumonia, with disseminate or confluent points of inflammation. 4. Capillary bronchitis. All of these alterations resemble very much, anatomically and clinically, those of the same kind found in typhoid fever, and have the same causation, which is the adynamic vasomotor paralysis and the blood infection.

M. JOFFROY (*Arch. de Physiol. Norm. et Path.*, 1880) asserts that there exists in smallpox a special form of bronchitis, independent of pustulation in the bronchial tubes; this form of bronchitis is frequent, if not constant, during the course of the disease in the adult, and is often complicated with broncho-pneumonia.

ALBUMINURIA IN VARIOLA.

M. COUILLAUT (*Thèse de Paris*, 1881), founds his deduction on the observation of 116 cases; he found albumen in 42 of these cases, and while it was present in but 5 out of 27 cases of varioloid, in 9 out of 17 cases of confluent smallpox, and 8 out of 14 of the hemorrhagic form, albuminuria was found to exist. Albuminuria of the acute period of the disease is very common, and is observed often in the most benign forms, but is more frequent in grave cases. It lasts generally but two or three days, disappears after the acute disease, and is never the début of renal disease. Albumen is especially apt to appear in the urine at the début of the period of eruption, during the fever of suppuration and when there supervenes any inflammatory complication (pneumonia, pleurisy, orchitis, etc).

The albumen is in small quantity (3 to 5 grains per pint) and is opalescent, hardly ever granular or flaky. The author considers the albuminuria due to temporary superalbuminose, induced by the exaggeration of the organic excreta, under the influence of febrile combustion; it is, however, possible that there exists some temporary alteration of the renal epithelium.

Albuminuria appearing during convalescence is rare; it is symptomatic of acute nephritis, of which it presents all the usual clinical characters (scanty, lactesecent, frothy urine, œdema of the face and limbs, anasarca, visual troubles, sometimes uræmic convulsions).

These cases should not be confounded with simple œdema, without albuminuria, a phenomenon which seems due to vasomotor paralysis, and which is never fatal. Secondary nephritis after variola is of serious prognosis, and may degenerate into Bright's disease.

CORRESPONDENCE.

Preservation of Cadavers for Anatomical Purposes.

ED. MED. AND SURG. REPORTER:—

In your issue of January 21st, in reply to a correspondent who asks for a good embalming injection, you speak of chloride of zinc as a preservative for dead bodies. For the preservation of dead bodies for a period of weeks, or months, as is required in dissecting rooms, there is undoubtedly nothing superior to chloride of zinc, which has the single objection that it decolorizes the tissues. If your correspondent desires a fluid to preserve bodies until burial, such as is required by undertakers, there is nothing better than arsenite of sodium, unless the weather is very warm, when zinc chloride is the best of all. The reason for the preference of arsenical solutions when the body is to be kept but a few days, while being transported, is apparent, when I say that it leaves the tissues of normal color. I have had in my dissecting room arsenical subjects which looked like living men quietly sleeping, so well was the tint of lips and skin preserved. Arsenic will, in cold, winter weather, keep anatomical subjects for a month, or more; but in warm and damp weather it is ineffectual beyond a few days.

The best methods of obtaining the solutions of zinc and arsenic in an economical way may interest some of your readers. I never buy solution of chloride of zinc from a manufacturing chemist, because it is sold at a high figure. It can be made of sufficient purity for anatomical purposes at one-eighth or one tenth the cost of the prepared solution. Commercial muriatic acid can be bought in quantity for four or five cents a pound, and scrap zinc can be got from plumbers and workers in metal for three or four cents a pound. Two pounds of muriatic acid added to sufficient zinc scraps to make a *neutral* solution will give enough chloride of zinc for preserving an ordinary size subject. The strong solution so obtained will measure about one and a half pints, and must be diluted with about four quarts of water, and then strained carefully, that no small fragments may remain to choke the arterioles during injection. The cost, therefore, of home made chloride of zinc solution for one subject will not exceed ten or twelve cents; while that of a similar quantity of the manufactured solution will be about one dollar.

Recently there has been extensively offered for sale in Philadelphia, a disinfectant, which is a solution of zinc chloride, obtained from galvanizing works. This contains a little iron, but, if made neutral by the addition of a few pieces of zinc, or soda, to take up the excess of acid, answers as well as the other zinc chloride, and costs practically the same, viz., ten or fifteen cents per subject. This I have used almost exclusively, in my school, for three years.

Solution of arsenite of sodium is made by putting one pound of arsenious acid (cost varying from five to ten cents, according to quantity purchased), into two quarts of water, and adding slowly, while the mixture is boiling, about a pound of sal soda (costing one or two cents). The soda should be added with care, in small amounts, because it is desirable to add only sufficient to combine with the arsenic; as soon as the insoluble arsenic is dissolved it is evident that the whole has become arsenite of sodium. Any additional soda would only render the solution alkaline, which might be detrimental to the integrity of the coats of the vessels.

So much for the preparation of these preservative fluids, which are cheap, effective, and in themselves odorless. The zinc will keep a subject which is exposed to the air fit for dissection two or three months, when it will mummify and become too hard and dry for service. Arsenic in this climate will not keep the cadaver perfectly for more than a week or two, except in cold winter weather. In summer it is valueless for practical anatomical work.

These two solutions are preferable to glycerine, alcohol, Wickersheimer's fluid, chloral, etc., chiefly because of their cheapness. Wickersheimer's fluid is objectionable, because of its offensive odor and its expensiveness.

When injecting the zinc solution, the first few syringefuls should be quite weak, because a strong solution hardens the small arteries, which are contracted after death, and therefore the preservative fluid does not reach the periphery of the cadaver; hence the skin and subcutaneous cellular tissues are imperfectly preserved. This will be shown in a few days by the puffing up of the integument by subcutaneous gas, and by the separation of the epidermis from the true skin.

It is unfortunate that we possess no injecting material which is cheap and effective, which has the power of destroying the cadaveric poison, which permits muscles and other pink tissues to retain their color, and which, at the same time, leaves the arteries so distensible that the subsequent reddened plaster injection can flow to the remote arterial distribution.

JOHN B. ROBERTS, M.D.

Phila., Jan. 28th, 1882.

Albuminuria in Pregnancy.

ED. MED. AND SURG. REPORTER:—

In your issue of January 7th, I notice an article copied from the *Canadian Journal of Medical Science*, on the "Indications for the Use of Morphine in Puerperal Eclampsia," by Dr. L.

McFarlane. The writer has evidently had to do with a few cases of convulsions in lying-in women, resulting from nervous prostration, accompanied with anæmia and hysteria, where opium and free stimulation were indicated, and straightway rushes into print with the surprising declaration that this is the true pathology, not alone of these few cases which he has so treated, but of *all* cases of puerperal convulsions. It is the old story, "generalization from insufficient data." The "albuminuria" theory on this subject, promulgated some years ago over the water, carried away whole hecatombs of victims, and that its utter falsity and stupidity were not demonstrated sooner is a standing reproach to the medical profession. Again it appears, in another form, equally objectionable and equally stupid. It is not surprising, in this age of crude and undigested thought in all departments of human learning, that some one should write such a piece as this, but that it should be selected and dignified by a place in your excellent journal is incomprehensible to me.

The mischievous tendency of such literature is so palpable to the thoughtful medical man as to need no demonstration. When will we learn, and not forget the fact, that the producing cause of convulsions in pregnant or lying in women is not a constant quantity? A constant cause implies a constant remedy, and the logical sequence is a "wild goose chase" after that will o'-the-wisp called a specific. Admit a constant cause, and a constant pathology, and the doctrine of specifics is made out, and a physician is no longer needed. Packages of medicine neatly labeled from the shelves of the druggist will answer every purpose, and our "occupation is gone." Most unfortunately there are, and always will be, insurmountable obstacles in the way of this most happy consummation.

Diversity of personal qualities in the patients would of themselves preclude the idea of treating all cases alike, even if the pathology were always the same. Our nomenclature for different forms of disease is as faulty as it well can be. Take this one in question, "puerperal convulsion." It describes a symptom, but gives not the slightest hint at the cause, or the real diseased condition. As well say "puerperal headache," "backache," "stomachache." Neither of the expressions is an intelligent answer to the all important question: What is the matter with the patient?

The truth is, there are at least three widely different pathological conditions which produce convulsions in lying in and pregnant women. 1st. A true cerebral hyperæmia, very closely allied to that which is present in apoplexy, resulting, if not promptly relieved, in effusion, coma, and death. 2d. Anæmia, added to a nervous and excitable organization, by some very properly called the "hysterical variety." 3d. Those who have uræmia from true inflammation, or granular degeneration of the kidney. This last variety is admitted to exist, but it is quite probable that careful investigation would show that the puerperal state has little or nothing to do with their production.

Albuminous urine in pregnant women means nothing at all, practically, of itself. More than one-half of them have it, after the fifth month, and nothing serious ever comes of it.

It is certainly true, at least in this part of the country, that cerebral congestion is the all important factor in the production of this frightful malady. Dr. McFarlane would have us give opium in these cases. Who would be stupid enough to follow his directions? The necessity is so strong and urgent, and the indications so plain, for the use of the lancet, that I am at a loss for a word to express it. Certainly in my own pretty wide experience with such cases, I have never seen any therapeutic agent, under any circumstances, produce more happy results. It must be used with an "eye single" to the effect upon the circulation, without regard to the quantity of blood taken, to be followed, as soon as the patient can swallow, by a mercurial purgative, or a drastic cathartic of some description. The only patient I have seen die of this terrible disease was one of the victims of the "albuminuria" theory. It is not a pleasant recollection. The plainest possible indications for depletion were neglected and thrown aside for an *abstraction*.

S. M. Hamilton, M.D.

Monmouth, Ill., Jan. 28th, 1882.

On Typho-Malarial Fever, so Called.

Ed. Med. and Surg. Reporter:—

In a communication in the Reporter of Jan. 21st, 1882, headed "Some Points in Malarial Fever," by J. W. Hickman, M.D., Delta, Pa., he says he remarked to an intelligent physician that malarial fevers were this year of unusually intense type; and the reply he received was, that they no doubt had associated with them a typhoid element. As I made such a remark to Dr. Hickman, and as I believe there is a disease which we cannot call by any other name, I have concluded to give some reasons for my belief. I also remarked that Dr. Woodward had written a small work, and described the disease among the first. His work I never saw, nor his retraction of it; but I have talked with Dr. Woodward on the subject, as he and I were attached to the same division during the Peninsular campaign, I having charge of Kearney's Division Hospital, where I had ample opportunities to study the malarial fevers of that region. We did not have as well marked cases of typho-malarial fever there, however, as we have here in our malarial districts. Prof. Dickson, however, held the same view before Dr. Woodward wrote his work on the chief complicating diseases of the United States armies. And we also have such an able teacher and author as Prof. Flint *scattering such opinions among the people.* In Flint's practice, page 839, he says, "Typho-malarial fever is caused by the combined action of malaria and the special cause of typhoid fever. He also says, practitioners in malarious situations have been accustomed to say that remittent became converted into typhoid fever. This mode of expression is not accurate. There is not a metamorphosis of the one disease into the other, but a combination of both diseases, the phenomena of the one or the other disease predominating in different cases."

I have met with many cases this season which

commenced with a chill every afternoon, followed by a temperature of 104 and 105° in the evening. The next morning it would be normal. And with all the anti-malarial remedies used the chills would continue for ten days or more, when they would gradually cease, and the fever become continuous, with all the symptoms of typhoid fever, even the rose colored spots, bronchial trouble, tympanites and diarrhœa. Some cases would start as remittents, and end with all the typhoid symptoms. To call such cases pernicious intermittents or remittents is nonsense. When a case of intermittent or remittent fever does not yield to full doses of quinia, repeated for three or four days, you generally have the typhoid combination. I confess I never give the doses recommended by Dr. Hickman, 20 to 30 grains, three to four times daily; his maximum dose would be 30 grains, four times daily, or an ounce in four days. Such doses I consider uncalled for and dangerous. Nor would I, as a rule, give his minimum dose, 20 grains, three times daily, for I have seen unpleasant symptoms produced with less doses. I know several medical men of over a quarter of a century experience in malarial districts, and who are neighboring practitioners of mine, who treat and recognize typho-malarial fever, and they are neither knaves nor ignoramuses. W. F. Smith, M.D.

Airville, Pa.

News and Miscellany.

Pharmaceutical Preparations.

LIQUID PANCREOPEPSINE.

The value of pancreatin as a digestant has been amply indicated by Dr. Dobell. Messrs. Warner & Co. have combined it with pepsin and lactic and muriatic acids in the preparation named above, and thus furnish the several aids to digestion required in the stomach and upper bowel. Their compound solution is of a delicate straw color, clear, agreeable to the palate, and very well adapted for atonic conditions of the upper digestive tract.

HERCULES MALT WINE.

This is a new and palatable form of malt extract with the addition of a small but fixed quantity of alcohol, and prepared especially for dietetic and medicinal use. We can commend it as entirely pure, and well adapted for use where a light tonic beverage is indicated. It is manufactured at the Prospect Brewery, corner of Eleventh and Oxford streets, Philadelphia, Pa.

Emma Abbott and Vaccination.

A daily paper has the following about Emma Abbott, the songstress. Some weeks ago she was singing in Chicago, and becoming alarmed at the prevalence of smallpox, determined to be vaccinated. But where? She thought it would be outrageous to disfigure her arm with a scab and scar. Finally, the left leg, above the knee, was decided upon. She was cautioned to exercise the limb as little as possible, which advice, of course, she neglected. Finally, one evening, in St. Louis, she appeared in the mad scene from Lucia, and was so enthusiastically received that all caution was thrown aside, and she exerted herself to the utmost. *Result.*—She was laid up with a badly inflamed thigh and had two doctors attending her. *Moral.*—Do not be so foolishly vain as to be vaccinated where judgment says the operation should not be performed. The arm is decidedly the best place, and it should always be done there.

Longevity Among the Irish.

It is a noteworthy fact that remarkable instances of longevity are to be found among the Irish; and it is particularly striking when we notice that these cases occur mostly among the lower classes, who are submitted to many hardships. It would seem to be a telling argument against excessive luxury, and in favor of some hardships and rough usage as a factor in the promotion of longevity. From an exchange, we note that during the quarter ending the 30th of September last, the deaths of eleven person 100 years of age, or upward, were reported. One man, who died at the age of 101, was able to work on his farm up to within a week of his death. A woman, who died at the age of 100, was able to go about the day before her death, her senses being perfect; while another woman, who died at 103 years of age, had lived for eighty years in a cabin on the summit of the highest of the Burrow mountains.

The Progress of Medicine.

The *Lancet* notices a recent article in the *Westminster Review*, commenting on the progress of medicine in recent years. Among other prominent points, it says: "Medicine though not strictly a science itself, yet rests upon several sciences, and is truly scientific in its processes and results. The writer clearly demonstrated that the claim of medicine to be considered truly scientific is not unfounded, and that its progress in recent times is but the first fruits of a harvest that promises to be gathered in not slowly, and the value of which to individuals and to the race will be incalculable.

Sanitary Convention.

A sanitary convention will be held at Ann Arbor, Michigan, under the auspices of the State Board of Health, on February 28th and March 1st, 1882. There will also, at the same time, be held an exhibition of sanitary apparatus. Further information may be obtained by addressing the secretary, V. C. Vaughan, M.D., Ann Arbor, Michigan.

Pennsylvania State Medical Society.

All persons who have papers which they desire to read before the Pennsylvania State Medical Society, at its next meeting, are requested to forward the title of the same, with their address, to Dr. William Varian, Titusville, Penna.

How to Give a Savage Dyspepsia.

An English physician with whom Sydney Smith was always in a controversial state, accepted a professional call to Australia in its early savage days. When taking leave of him the wit said, "Good bye, Doctor; you have never failed to disagree with me, and I believe you will disagree with the savage who eats you."

Items.

—A family living near Corinth, Kentucky, were recently poisoned (five of them it is thought fatally), by eating corn bread supposed to contain arsenic.

—It is stated by Dr. Billings (U. S. A.) that 100,000 people die annually in the United States, from preventable diseases and avoidable accidents.

—Mr. Erasmus Wilson, President of the Royal College of Surgeons, England, has received the honor of knighthood, in consideration of his numerous gifts to charities, etc.

—False ipecacuanha is distinguishable from the pure drug by being more branched, by its dirty white color, and by the absence of the annular rings present in the *genuine* article.

—A young lady, who for some time complained of pain in her shoulder, as though a pin was sticking her, was recently operated upon, when a needle found imbedded in the flesh was removed.

—It is reported from Erie, Pennsylvania, that thirteen persons in a boarding house were poisoned by gas from a coal stove not properly closed. When found, they were insensible, but recovered.

—Our venerable friend, Mrs. Partington, says that "Ike has an irrigating disease: Charlotte russe broke out all over him, and if he hadn't worn the Injun beads as an omelette it would doubtless have calumniated fatally."

—Statistics show that Paterson, N. J., in proportion to its size, has more one-eyed men than any other city in the United States, except Pittsburgh. Nine tenths of those thus afflicted are workers in iron and steel, and have been struck in the eye with the metal chippings.

—One day recently, Dr. Augustus F. Müller, of Germantown (a suburb of Philadelphia), while driving along the turnpike, was startled by the appearance of a masked man, who grasped the horse's bridle and leveling a pistol at the doctor's head, demanded that he should "shell out." The doctor gave his pocketbook, containing ten dollars, to the highwayman, who thanked him, and expressing regrets for his unceremonious way of asking a loan, disappeared. The matter was subsequently reported to the police.

—A prize, of the value of £100, offered by the Equitable Life Assurance Society of the United States, for the best essay on "Life Assurance," has been awarded to T. M. Dolan, F.R.C.S. Edin., of Halifax, Yorks.

Does it not seem a pity that with all the talent and energy to be found in this country, a foreigner took this American prize away from us, or does it argue that we set so high a value on our talent as not to consider such a trifling prize worth striving for?

—A man accused of fraud assumed hydrophobia, and was with difficulty conveyed to a hospital on a stretcher. He subsequently admitted that he had been malingering. He was subjected to galvanic shocks, but stood them so well that, as a final test, one of the medical operators said, "Take him away; we'll try the 'big' battery to-morrow." This hint of what was yet to come, it is said, proved a little too much for the prisoner's endurance, and he ultimately confessed that he had been simulating madness.

OBITUARY NOTICES.

SIR ROBERT CHRISTISON, M.D., F.R.S.

This distinguished physician died recently, in London. He was born July 18th, 1797. In 1819 he graduated in medicine at the University of Edinburgh. He then went to Paris and studied toxicology under Orfila. Returning to Edinburgh in 1822 he began the practice of medicine, and was soon afterwards appointed Professor of Medical Jurisprudence in the University. Ten years later he was promoted to the Chair of Materia Medica. He was a witness as an expert in poisons in the celebrated Palmer trial in London, in 1856. In 1866 he received the degree of D.C.L. from Oxford University, and was created a Baronet in the year 1871. He received the degree of LL.D. from his own university in 1872. Sir Robert twice held the position of President of the Royal College of Physicians, Edinburgh, and at the time of his death was Ordinary Physician to the Queen, for Scotland. He resigned the Chair of Materia Medica in April, 1877. He contributed numerous articles to medical journals in both London and Edinburgh, and was the author of several books. One of his works, entitled *A Treatise on Poisons*, is recognized as the standard work on the subject.

MARRIAGES.

HARRIS—BAKER.—In Marlton, N. J., Jan. 15th, by the Rev. Isaac Cook, William H. Harris, M.D., and Mrs. Elizabeth C. Baker, all of Evesham township, Burlington county, N. J.

JOHNSON—STRUBLE.—On January 18th, by Rev. R. B. Foresman, Dr. Levi W. Johnson, of Morristown, N. J., and Lizzie Struble, of Hunt's Mills, N. J.

McCLENATHAN—HANNA.—On Thursday, January 12th, at the home of the bride, near Prosperity, Pa., by Rev. J. H. Sherrard, J. C. McClenathan, M.D., of Connellsville, Pa., and Miss Flora M., daughter of Thomas Hanna, Esq.

DEATHS.

CONRAD.—In this city, on the 25th instant, Dr. Isaac H. Conrad, in his 68th year.

GRISWOLD.—In New York, on Tuesday morning, January 24th, Dr. Samuel L. Griswold, aged 73 years.

HANLY.—In this city, on January 27th, Dr. J. A. C. Hanly.

REID.—In New York, on Sunday morning, January 22d, Kenneth Reid, M.D.

SHALER.—In Cincinnati, Ohio, on Tuesday, January 17th, N. B. Shaler, M.D.